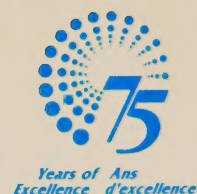


# Analytical Studies Branch



GETTING A NEW JOB IN 1989-90 IN CANADA

by

René Morissette

No. 57

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## ABSTRACT

This paper presents a new method of finding a job in Canada. The data is taken from the Labour Market Analysis Survey of 1989-90. The results of the survey are presented in the form of a table of 100 questions. The questions are: 1. What is your age? 2. What is your sex? 3. What is your education? 4. What is your experience? 5. What is your current job? 6. What is your current salary? 7. What is your current employer? 8. What is your current location? 9. What is your current status? 10. What is your current job title? 11. What is your current job description? 12. What is your current job responsibilities? 13. What is your current job challenges? 14. What is your current job satisfaction? 15. What is your current job outlook? 16. What is your current job growth? 17. What is your current job stability? 18. What is your current job security? 19. What is your current job benefits? 20. What is your current job perks? 21. What is your current job culture? 22. What is your current job environment? 23. What is your current job atmosphere? 24. What is your current job climate? 25. What is your current job temperature? 26. What is your current job humidity? 27. What is your current job wind speed? 28. What is your current job air pressure? 29. What is your current job barometric pressure? 30. What is your current job weather? 31. What is your current job forecast? 32. What is your current job trend? 33. What is your current job pattern? 34. What is your current job cycle? 35. What is your current job rhythm? 36. What is your current job beat? 37. What is your current job pulse? 38. What is your current job tempo? 39. What is your current job pace? 40. What is your current job speed? 41. What is your current job velocity? 42. What is your current job acceleration? 43. What is your current job deceleration? 44. What is your current job momentum? 45. What is your current job inertia? 46. What is your current job mass? 47. What is your current job volume? 48. What is your current job density? 49. What is your current job concentration? 50. What is your current job intensity? 51. What is your current job magnitude? 52. What is your current job significance? 53. What is your current job importance? 54. What is your current job value? 55. What is your current job worth? 56. What is your current job price? 57. What is your current job cost? 58. What is your current job expense? 59. What is your current job investment? 60. What is your current job return? 61. What is your current job profit? 62. What is your current job loss? 63. What is your current job risk? 64. What is your current job reward? 65. What is your current job benefit? 66. What is your current job advantage? 67. What is your current job disadvantage? 68. What is your current job opportunity? 69. What is your current job challenge? 70. What is your current job obstacle? 71. What is your current job barrier? 72. What is your current job hurdle? 73. What is your current job jump? 74. What is your current job leap? 75. What is your current job stride? 76. What is your current job step? 77. What is your current job move? 78. What is your current job transition? 79. What is your current job change? 80. What is your current job shift? 81. What is your current job turn? 82. What is your current job twist? 83. What is your current job turn of mind? 84. What is your current job turn of events? 85. What is your current job turn of fortune? 86. What is your current job turn of fate? 87. What is your current job turn of destiny? 88. What is your current job turn of providence? 89. What is your current job turn of grace? 90. What is your current job turn of mercy? 91. What is your current job turn of compassion? 92. What is your current job turn of kindness? 93. What is your current job turn of generosity? 94. What is your current job turn of goodness? 95. What is your current job turn of beauty? 96. What is your current job turn of grace? 97. What is your current job turn of mercy? 98. What is your current job turn of compassion? 99. What is your current job turn of kindness? 100. What is your current job turn of generosity?

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Analytical Studies Branch  
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## ABSTRACT

This paper presents recent evidence on hirings in Canada. The data is taken from the Labour Market Activity Survey of 1988-90. The results of the paper strikingly confirm the importance of education in individuals' success on the labour market. Of all individuals already on the labour market or returning to the labour market and who started new full-time jobs in 1989-90, those with high levels of education had less difficulty finding jobs than low-educated workers. The jobs they found generally paid higher wages and had better pension plan coverage than those found by low-educated workers. Low-educated workers were less likely to be employed for the whole period. When they made school-to-work transitions, they received lower wages in their first full-time job. Of all men who started new full-time jobs, those aged 55 to 64 seem to have experienced greater difficulty finding a job than those aged 35 to 44. Men aged 45 to 54 may not be immune from adjustment problems either. While the full-time jobs they hold usually are covered by pension plans to the same extent than jobs held by men aged 35 to 44, the full-time jobs they started in 1989-90 had lower pension plan coverage than those started by men aged 35 to 44. Disabled people limited at work appear to experience substantial problems on the labour market.

**Key words :** Hirings, Job creation, Employment.





## **Executive summary**

This paper presents recent evidence on hirings in Canada. The data is taken from the Labour Market Activity Survey of 1988-90. The main results can be summarized as follows :

### **I. For the population of individuals who were not in school at any time in 1989-90 and who had a job at some point during that period :**


1) 12.5 million individuals were not in school at any time in 1989-90 and had a job at some point during that period. At least 10 % of them started a job with a new employer in each of these years ;

2) young workers are more likely to start new jobs than older workers. Similarly, white-collar and blue-collar workers are more likely to start new jobs than professionals and managers ;

3) compared to jobs held at a given point in time or for the whole year, the jobs started in a given year generally pay lower wages, are less unionized, less covered by pension plans and are obtained more often in small firms than in large firms ;

4) (i) in the aggregate, the spells of non-employment preceding the jobs started are much longer for women than for men. However, the difference is totally due to the influence of a small number of women who have non-working periods of 2 years or more. When attention is restricted to a second sample including jobs which started after non-working periods of less than 2 years, the durations of the spells of non-employment of men and women are very similar. For both samples, the duration of job search of men is very close to that of women. Of all men who started full-time jobs in 1989-90 and who had non-working periods shorter than 2 years : a) those who had not completed high school took 3 to 6 weeks longer to find a job than those with more than high school, b) those aged 55 to 64 took 3 to 4 weeks longer to find a job than those aged 35 to 54. Of all women who started full-time jobs in 1989-90 and who had non-working periods shorter than 2 years, those who had not completed high school took 1 to 6 weeks longer to find a job than those with more than high school ;

(ii) aside from shortage of jobs, lack of skills or experience and lack of education are the two most frequently cited factors causing individuals difficulty when they look for work. Young workers report lacking skills or experience more often than their older counterparts. Workers who have not completed high school report lacking education 4 times more often than those who have a university degree. Workers aged 55 to 64 report lacking information about jobs more frequently than younger workers. Members of visible minorities and disabled people report lacking information, skills, experience and education more often than other people ;



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(iii) figures on the number of part-time jobs started during the period and for which individuals would have preferred working full-time are consistent with the idea that men, low educated workers and disabled workers would prefer working full-time relatively more often than other individuals ;

5) hourly wages received in new full-time jobs increase with education. Hourly wages received by individuals with a university degree are between 31 % and 54 % higher than those received by individuals who have not completed high school. After controlling for personal characteristics, union status, firm size, broad industries and occupations, members of visible minorities and disabled men receive lower wages than other workers. Of all individuals, highly educated men aged 35 to 44 are the most likely to start jobs paying high wages and being well covered by pension plans. Pension plan coverage of new full-time jobs started by men aged 45 to 54 is lower than that for men aged 35 to 44. At the other end of the spectrum, women aged 16 to 24 who have not completed high school are most likely to start jobs which provide annual earnings below some poverty line and which are rarely covered by a pension plan ;

6) of all individuals, men with a university degree are the most likely to be employed all weeks of 1989-90. Disabled people are much less likely to be employed for the whole period than other individuals ;

## **II. For the population of individuals not in school at any time in 1989-90, without a job in 1989-90 and who wanted to work at some point during this period :**

7) individuals who have not completed high school are almost three times more likely to be **not** employed at all during the whole period of 1989-90 and to want to work at some point during that period than individuals who have more than a high school diploma ;

8) individuals aged 55 to 64 are almost two times more likely to be **not** employed at all during the whole period of 1989-90 and to want to work at some point during that period than individuals aged 16 to 24 ;

## **III. For the population of individuals who made school-to-work transitions between 1989 and 1990 :**

9) higher education leads to more successful transitions from school to work. Higher education does not seem to have much influence on one individual's chances of finding a full-time job one year after leaving school. Nor does it seem to affect much the time it takes for an individual who **did** find a full-time job to get that job. However, higher education generally leads individuals to receive higher wages when they make a transition from school to work. Individuals who left school in 1989 with a university degree had, in 1990, annual earnings which were twice those of individuals who had left school in 1989 with no high school diploma ;



#### **IV. For the population of individuals who were not in school in 1989 and returned to school in 1990 :**

10) of all individuals who were not in school in 1989 and who either were employed or wanted to work at some point, roughly 2 percent returned to school in 1990. The chances of returning to school are at least four times higher for individuals aged 16 to 24 than for older people. The chances of returning to school do not vary much across education levels. On average, individuals with annual earnings below Statistics Canada's Low Income Measure are two times more likely to return to school than other individuals. As long as low annual earnings mainly reflect individuals' problems in achieving success in the labour market (rather than a voluntary decision to work few hours per year), this indicates that individuals who have a "tough time" on the labour market are more likely to return to school than others.





## 1. Introduction

Worker turnover in the Canadian economy is substantial. In 1988, quits, layoffs or separations for other reasons amounted to roughly 20 % of all jobs held that year. The number of hirings observed was equal to about 25 % of all jobs held that year [Statistics Canada (1992)].

Until recently, lack of data prevented economists from determining the size and the characteristics of the Canadian workforce which leaves jobs permanently or gets new jobs in a given time interval. The Labour Market Activity Survey (LMAS), which records individuals' behaviour on the labour market over a two or three-year time interval, now allows one to address these issues. Using LMAS, Picot and Baldwin (1990), Picot (1992), Morissette, Picot and Pyper (1992) study individuals leaving their job permanently through quits or layoffs. The goal of this paper is to document the process by which individuals get new jobs. More specifically, we want to answer the following questions. How many individuals start new jobs each year ? Which individuals are the most likely to start new jobs ? What are the main features of the jobs obtained ? How hard is it to get a new job ? Which individuals are the most likely to start "good" jobs ? Which individuals are employed for most of the period ?

To our knowledge, Galarneau (1992) is the only Canadian study on hirings which uses micro data. Using LMAS, she considers all hirings observed in 1988. While she briefly describes some characteristics of the individuals getting new jobs that year and some features of the jobs obtained (e.g. full-time vs part-time job, month in which jobs are obtained), most of her study analyzes the distribution of hirings by industry.

Our analysis differs from that in many respects. First, we distinguish jobs started by individuals who are not in school from jobs started by students. This is important since jobs started by students account for a substantial fraction of all jobs started in a given year and since they generally differ widely from jobs started by individuals who are not in school. Second, we ask to what extent individuals who start new jobs have difficulty getting these jobs. Third, we analyze some features of the jobs obtained which are not considered in Galarneau (1992) : the extent to which these jobs are covered by pension plans and the proportion of these jobs which provide annual earnings smaller than some low income measures are examples of such features.

The results of the paper strikingly confirm the importance of education in individuals' success on the labour market. Of all individuals already on the labour market or returning to the labour market and who started new full-time jobs in 1989-90, those with high levels of education had less difficulty finding jobs than low-educated workers. The jobs they found generally paid higher wages and had better pension plan coverage than those found by low-educated workers. Low-educated workers were less likely to be employed for the whole period. When they made school-to-work transitions, they received lower wages in their first full-time job. Of all men who started new full-time jobs, those aged 55 to 64 seem to have experienced greater difficulty finding a job than those aged 35 to 44. Men aged 45 to 54 may not be immune from adjustment problems either. While the full-time jobs they hold usually are covered by pension plans to the same extent than jobs held by men aged 35 to 44, the full-time jobs they started in 1989-90 had lower

pension plan coverage than those started by men aged 35 to 44. Disabled people limited at work appear to experience substantial problems on the labour market.

The plan of the paper is the following. In section 2, we present an overview of jobs started in 1989-90. Next, we examine how hard it is for people already on the labour market or returning to the labour market to find new jobs, given that they did find new jobs (section 3). To do so, we analyze the transitions into employment of individuals who are not in school in 1989-90 and who are employed at some point during that period. We then look at individuals not in school, who wanted to work at some point in 1989-90 but who did not find any job (section 4). We study school-to-work transitions in section 5.

## 2. Overview of jobs started in 1989-90

The data is taken from the Labour Market Activity Survey (LMAS) of 1988-90. This survey collects longitudinal data on individuals' behaviour on the labour market and thus allows one to study the process by which workers (try to) get new jobs. For reasons outlined in Appendix 1, the analysis concentrates on jobs started in 1989 and 1990. We restrict our attention to jobs started by paid workers.

Table 1 partitions the population aged 16 to 69 into three mutually exclusive groups : 1) individuals not in school at any time in 1989-90, 2) individuals in school for the whole period and 3) individuals in school part of the period. The first group refers to individuals who did not attend school **full-time** at any time during the period. These individuals may have a job at some point during the period (group 1a) or may be not employed at all during the whole period (group 1b), either because they did not want to work (group 1bi) or because they could not find work (group 1bii). The second group includes individuals who attended school full-time at least from January to April and from September to December of both 1989 and 1990. The third group is defined residually. It contains individuals who - after graduating or not - left school in 1989 (group 3a), individuals who returned to school in 1990 (group 3b) and individuals who were in school both years but not for the whole period (group 3c).

The focus of this paper is on individuals not in school at any time in 1989-90 and with a job at some point in 1989-90 (group 1a), on individuals not in school at any time in 1989-90, without any job in 1989-90 and who wanted to work at some point in 1989-90 (group 1bii) and on individuals in school part of the period (group 3). Individuals in school for the whole period (group 2) - although they start a substantial number of jobs - and individuals who did not want to work at any time in 1989-90 (group 1bi) will not be studied in detail.



Table 2 shows that roughly 3.3 (2.6) million jobs were started with a new employer in 1989 (1990)<sup>1</sup>. Most of the jobs started each year were obtained by individuals not in school at any time in 1989-90 and with a job at some point during that period. The number of jobs started per person varies tremendously across subsamples. Individuals in school part of the period or for the whole period started three to four times more jobs per person than individuals not in school at any time in 1989-90 and with a job at some point during that period. This reflects the fact that many of the jobs started by the former group are summer jobs and/or part-time jobs. It also strongly highlights the need to disaggregate the data into various subsamples when one analyzes transitions into employment.

### **3. Individuals not in school at any time in 1989-90 and with a job at some point in 1989-90**

The purpose of this section is to examine the extent to which individuals already on the labour market or returning to the labour market<sup>2</sup> are successful in getting new jobs, given that they do find new jobs. To do so, we ask the following questions :

- 1) who are individuals not in school at any time in 1989-90 and with a job at some point during this period ;
- 2) how many of them started new jobs during that period ;
- 3) which of them are most likely to start new jobs ;
- 4) what are the main characteristics of the jobs obtained ;
- 5) how hard was it to get these jobs ;
- 6) which individuals are most likely to get "good" jobs ;
- 7) which individuals are employed for most of the period.

#### **3.1 Who are they ?**

Table 3 shows some characteristics of individuals not in school at any time in 1989-90. The first idea conveyed by the table is that the vast majority of individuals who are employed during the period are less than 55 years old (89 %), have a high school diploma or more (75 %), are not members of visible minorities (94 %) and are not disabled (88 %) (column 2). The proportion of men in this group is slightly higher than the proportion of women. Compared to individuals who did not want to work (column 3), individuals who are employed are much younger, consist more often of men, are more educated and are less likely to be disabled. The differences observed in the age and sex composition of the two groups mainly reflect the fact that most people inactive are 55 years old or more and are women. A more meaningful exercise is to compare the characteristics of individuals employed with those of individuals not employed and who wanted to work (column 4). Compared to the latter group, individuals who are employed are somewhat younger and include more men. However, they are much more educated. While

25 % of them have not graduated from high school, that percentage equals roughly 50 % for individuals not employed. Individuals who are employed are also less likely to be members of visible minorities or to be disabled than individuals not employed<sup>3</sup>.

### 3.2 How many of them started jobs during the period ?

Of the 12.5 million individuals not in school at any time in 1989-90 and employed at some point during that period, at least 10 % started one job or more with a new employer in each of these years<sup>4</sup> (Table 4). In 1989, 1.6 million individuals in this group started 2 million jobs with a new employer. In 1990, 1.3 million individuals started 1.5 million jobs with a new employer<sup>5</sup>. Since some individuals (0.4 million) started new jobs in both years, 2.5 million individuals (i.e.  $1.6 + 1.3 - 0.4$ ) in this group started 3.5 million jobs with a new employer in 1989-90.

### 3.3 Which individuals are most likely to start jobs with a new employer ?

Table 5 compares the distribution of jobs started in 1989-90 with a new employer (column 1) with the distribution of jobs in the economy in September 1989 (column 2). If all individuals were equally likely to start a new job, then both distributions would be identical. A high share of jobs started relative to the share of employment indicates a high propensity to start new jobs.

Young individuals are more likely to start a new job than their older counterparts. While individuals aged 16 to 34 held roughly 50 % of all jobs in September 1989, they started two thirds of all jobs started that in 1989-90. One explanation is that this group - especially those aged 16 to 24 - often goes through some "job shopping" to acquire information about such job characteristics as earnings opportunities and working conditions. This happens less frequently as workers acquire more information about both their own preferences and job characteristics ; a better match between the worker and the firm is then likely to occur. This is consistent with the high quit rates observed among young workers [Morissette, Picot and Pyper (1992)]. Another argument is that because of seniority rules or because they do not have many firm-specific skills, young workers are more likely to be permanently laid-off than their older counterparts, thus are more likely to have to look for another job and more likely to start new jobs. This is consistent with the high layoff rates observed for young workers [Picot (1992)].

The proportion of jobs started by women and by disabled people who are completely prevented from working or limited at work is slightly higher than their share of employment. On the contrary, more highly educated workers seem less likely to start a new job. The differences observed across education levels are not as pronounced as those found across age groups. Whether or not individuals are members of visible minorities, their share of jobs started does not differ much from their share of employment.



### 3.4 What are the main characteristics of the jobs obtained with a new employer ?

At least 75 % of the jobs obtained are full-time, non unionized and not covered by pension plans (Table 6). The share of full-time jobs in job starts is slightly lower than the share of full-time jobs in all jobs held; this probably reflects the higher turnover in part-time jobs. There are enormous differences between the jobs started in 1989-90 and the jobs held at a given point in 1989 with respect to the degree to which they are unionized or covered by a pension plan. The jobs started in 1989-90 are at least two times less likely to be unionized or covered by a pension plan than the jobs held in September 1989. One explanation is that since quit rates are higher in non-unionized jobs and in jobs not covered by pension plans [Morissette (1992)], firms offering these jobs must have a higher hiring rate to maintain their level employment.

Relatively more of the jobs are started in firms with less than 20 employees than with larger firms. This mirrors the high worker turnover which, as measured by quit rates and layoff rates, is higher in these firms than in other firms [Morissette, Picot and Pyper (1992), Picot (1992)]. Quit rates are probably higher in small firms because of the lower wages and lower pension plan coverage [Morissette (1991)]. One reason why layoff rates are higher relates to the high volatility (i.e. death rates) of the small firm sector. Another explanation is that, since workers in small firms are generally less educated and younger than those in larger firms [Morissette (1991)] and thus are likely to have fewer firm-specific skills, small firms may find it less costly to lay them off when demand for their product decreases.

The same arguments can be used for the Consumer Services industry. This industry employs to a great extent people in temporary and part-time jobs and tends to offer lower wages and less pension plan coverage. As a result, it is likely to have a high rate of worker turnover and thus a relatively high share of job starts. The seasonal nature of activities in Construction probably explains why its share of jobs started is twice as high as its share of employment. Hirings are relatively few in Public Services ; this is partly due to the very low quit rates observed in that sector.

Compared to white-collar or blue-collar workers, professionals and managers start relatively few jobs. Once more, this is consistent with the fact that quit rates and layoff rates are relatively low for this category of workers. Low quit rates among professionals and managers may reflect a good match between them and the firm they work for. This in turn could result from favourable working conditions and relatively high wages. Low layoff rates could be explained by the idea that it may be costly for firms to layoff workers who occupy relatively important positions within the organization. Since professionals and managers generally are highly educated, these factors could explain part of the difference observed earlier across education levels.

Women start relatively more part-time jobs than men<sup>6</sup>. Table 7 shows the distribution of full-time jobs started in 1989-90 by men and women. Differences in the percentages observed for men and women reflect both sex differences in the composition of employment and sector-specific differences in hiring rates. For instance, the high share of jobs started by men in



Construction reflects both men's predominance in that sector as well as the relatively high hiring rate of that industry. Keeping that in mind, Table 7 indicates that women's new jobs are concentrated in Consumer Services and in clerical and services-related occupations<sup>7</sup>. Furthermore, women's new jobs are less often unionized or covered by pension plans than men's new jobs.

The jobs started with a new employer generally pay lower wages than those held during the whole year (Tables 6 and 8). Controlling for sex, age and education, the ratio of hourly wages in full-time jobs started in 1989 to hourly wages in full-time jobs held during the whole year varies between 73 % and 118 %. These ratios must be used with caution. The lower wages generally observed in the jobs obtained in 1989 partly reflects the lack of seniority of workers starting these jobs. An offsetting factor is that worker mobility allows individuals to find jobs in which they are more productive and thus likely to receive higher wages than those paid in previous jobs. The main caveat with these ratios, however, is that the set of jobs started in 1989 differs from the set of jobs held for that whole year with respect to unionization, industry, occupation and firm size. For instance, the lower wages observed in the jobs started in 1989 may be partly due to the fact that relatively more jobs are obtained with small firms, in Consumer Services, and with non-unionized employers. Since small firms, the Consumer Services industry and non-unionized employers generally pay wages which are below average, this tends to decrease wages in new jobs. To estimate rigorously how wages in jobs started in 1989 compare with wages in **comparable** jobs, one has to take account of all these factors. Since LMAS's sample size does not allow us to do that, one should view these ratios only as rough estimates of wages earned in new jobs relative to those paid in comparable jobs.

Keeping that in mind, two points are worth mentioning. First, this ratio is higher for men aged 35-44 than for older men. As we shall see below, this could be explained by the idea that older male workers may face more severe adjustment problems when looking for a job and thus may be willing to accept relatively lower wage offers. Perhaps this explains why the ratio observed for women aged 45 to 54 is also low relative to that observed for younger women. Second, contrary to other men, those with a trades certificate or diploma from a vocational school or apprenticeship training generally receive wages which are very close to the wages paid in full year full-time jobs held in 1989.

Thus, compared to jobs held at a given point in 1989 (or for that whole year), the jobs started in 1989-90 generally are less unionized, less covered by pension plans and generally pay lower wages.

### 3.5 How hard was it to get these jobs ?

We consider four measures of the degree to which individuals face problems finding a new job : 1) the number of weeks not employed before starting a job, 2) the number of consecutive weeks of job search before starting a job, 3) the fraction of jobs for which individuals report having difficulty when looking for work and 4) the extent to which individuals who started part-time jobs would have preferred working full-time. The first measure includes time spent unemployed as well as time spent inactive and thus has to be used with caution. The second measure defines a spell of unemployment by counting the number of **consecutive** weeks an individual looked for work before the start of the job<sup>8 9</sup>. Thus, it is a more restrictive concept than that used in the Labour Force Survey, in which an individual is defined as unemployed if he/she looked for work at some point during (rather than for **each** of) the last four weeks. The third measure is available only for the subset of jobs which are preceded by a spell of job search<sup>10</sup>.

#### 3.5.1 Time not employed and time looking for work

Table 9 presents the first two measures for full-time jobs started in 1989-90 with a new employer<sup>11 12</sup>. On average, individuals spent 28 weeks not employed before starting these jobs. In forty-four percent of the cases, individuals were employed during the week preceding the start of their job. For the cases where individuals were not employed prior to starting their job (56 %), the duration of the non-working period averaged 49 weeks. The number of consecutive weeks of job search is much lower than the number of weeks not employed. On average, individuals spent 6 consecutive weeks looking for work. This results from the fact that forty percent of the jobs obtained were preceded by spells of job search which averaged 15 weeks.

Workers who start a job with a new employer after a period of non-employment may have obtained this job through some job search or after being contacted by this new employer. One would expect job search to be reported in most of the cases. In 1989-90, job search is reported to occur for 73 % (i.e. 40.7 % / 56.0 %) of the cases. One may argue that this percentage is low and thus suggest that job-search-while-not-employed is underreported. If so, the average number of consecutive weeks of job search would be biased downwards. Since our interest lies more in the duration of job search in relative terms - i.e. across education levels or across age groups - than in the duration of job search itself, this may not pose a big problem. As long as the degree of underreporting of job search is fairly constant across education levels or age groups, our qualitative conclusions on the effect of education and age on job search will remain unchanged<sup>13</sup>.

Table 10 shows both measures for various groups of individuals. While the number of consecutive weeks of job search does not vary much between groups, there are tremendous differences in the time spent not employed between men and women, between people belonging



and those not belonging to visible minorities and between disabled and not disabled people. Table 11 suggests that part of the difference in the number of weeks not worked which is observed between men and women may reflect the influence of a small number of women who are returning to the labour market after an absence of 2 years or more. This would explain why, of all the full-time jobs started in 1989-90 with a new employer, the proportion which are preceded by non-working periods of 2 years or more is at least three times higher for women (8.1 %) than for men (2.4 %).

Table 12 confirms this hypothesis. Virtually the whole difference in the number of weeks not worked which is observed between men and women results from the influence of a very small number of women who have spells of non employment of 2 years or more. Even though full-time jobs preceded by non-working periods of 2 years or more account for only 8.1 % of all full-time jobs started by women, they account for roughly three quarters of all weeks not worked by them. This is why excluding these jobs from the sample decreases the average number of weeks not worked by women from 43.0 to 11.5. Similarly, the difference observed previously between individuals belonging or not to visible minorities vanishes when jobs preceded by spells of non employment of 2 years or more are excluded.

LMAS contains no explicit question which would allow analysts to distinguish workers who are starting new jobs "while being already in" the labour market from workers who are starting new jobs "after returning to" the labour market. While the 2 year cutoff is arbitrary, it may help make this distinction. Even though some of the workers who start a job after a non-working period of 2 years or more may have been unemployed for the whole duration of their non-working period, it is reasonable to think that the vast majority of these workers are indeed returning to the labour market. In any event, the next results we present on the number of weeks not worked and on the number of consecutive weeks of job search are shown both for all full-time jobs and for full-time jobs preceded by non-working periods shorter than 2 years.

On average, men spent 17 weeks not employed and 7 consecutive weeks looking for work before starting a full-time job in 1989-90 (Table 13). When attention is restricted to men with non-working periods shorter than 2 years, the average number of weeks not worked decreases slightly to 11 weeks while the number of consecutive weeks of job search remains virtually unchanged (Table 14). More important, workers with higher levels of education experience shorter spells of non employment and shorter spells of job search. For both Table 13 and Table 14, the spells of non employment and the spells of job search of workers with more than high school are roughly two times shorter than those of workers who have not completed high school. Also, workers aged 55 to 64 generally exhibit longer spells of non employment and longer spells of job search than their younger counterparts. Thus, the main message of Tables 13 and 14 is that, given that one did find a job, the difficulty of finding it is the greatest for older and low-educated male workers.

Tables 15 and 16 replicate Tables 13 and 14 for women. On average, women spent 43 weeks not working and 5 consecutive weeks looking for work before starting a full-time job in 1989-90 (Table 15). As was shown above, the very high average duration of non-working periods reflects



the influence of a small number of women who probably started a job after returning to the labour market. This is most likely to occur for women aged 25 to 54 - who may return to the labour market some time after child birth and/or when children are older - whose spells of non employment are at least three times longer than those of women aged 16 to 24. This seems also more likely to occur for women who have a relatively low education level and thus who may be less career-oriented than their more educated counterparts ; this would explain why women aged 25 to 44 who have not completed high school exhibit spells of non employment four to five times (or 74 to 87 weeks) longer than women aged 25 to 44 with more than high school. The idea that relatively more low-educated and older women return to the labour market and thus have very long spells of non employment is also consistent with the fact that the differences in the duration of spells of non employment across education levels and across age groups decrease dramatically when attention is restricted to women with non-working periods shorter than 2 years (Table 16). Spells of non employment of women aged 25 to 54 are now very similar to those of women aged 16 to 24. Spells of non employment of women aged 25 to 44 with less than high school are now at most two times longer than those of women aged 25 to 44 with more than high school. Thus, while older and low-educated women generally have higher spells of non employment than their younger counterparts, the effect is much less pronounced for women with non-working periods shorter than 2 years than for all women.

While the duration of spells of non employment of women differs drastically whether or not we use the 2 year cutoff, the average duration of their spells of job search roughly equals 5 weeks in both cases. This is very close to the average duration of job search of men. In contrast to what is observed for men, the duration of job search does not vary much across education levels. Nor does it vary much across age groups. Women aged 55 to 64 exhibit longer spells of non employment than women aged 35 to 44. However, the difference is not statistically significant (Table 16).

Table 17 shows that low-educated and older men experience longer spells of non-employment and longer spells of job search mainly because they are more likely to have non-working periods or periods of job search before starting a full-time job. For instance, men who have not completed high school exhibit spells of job search which are on average 1.8 times longer than those of men with more than high school. This difference is due, not so much to the fact that low-educated men have longer spells of job search when they do search, but rather to the fact that they are 1.6 times more likely to have to search before getting a job. Table 18 shows that both incidence and duration explain why low-educated women have longer spells of non-employment<sup>14</sup>.

Are differences in education and age statistically significant ? To answer that question, we estimate the expected duration of spells of non-employment and spells of job search. Using age, education, visible minority status and disability status as explanatory variables, we estimate : 1) the probability of starting a job preceded by a non-working period or preceded by job search and 2) the expected duration of spells of non-employment and of spells of job search for the subsample of jobs which were preceded by non-working periods or by job search (Appendix 3)<sup>15</sup>. This is done separately for men and women. Regression coefficients which are not

statistically significant at the 5 % level (two-tailed test) are set equal to zero when expected durations are calculated. These are shown in Tables 19 and 20. Essentially, differences in education are statistically significant for both men and women ; differences in age matter for men. As suggested above, of all men who did find new full-time jobs in 1989-90, those with low education and those aged 55-64 take more time getting a job than other male workers. Specifically, men aged 35 to 44 who have not completed high school take 3 to 6 weeks longer to find a job than men aged 35 to 44 with more than high school (Table 19). Men aged 55 to 64 who have not completed high school take 3 to 4 weeks longer to find a job than those aged 35 to 44 who have not completed high school. Women aged 35 to 44 who have not completed high school take 1 to 6 weeks longer to find a job than women aged 35 to 44 with more than high school.

Thus, at least three points emerge from Tables 9 to 20. First, in the aggregate, women have much longer spells of non-employment than men. This difference is totally due to the influence of a small number of women who have non-working periods of 2 years or more and who account for 75 % of all weeks not worked by women before starting a full-time job. When one uses a second sample which excludes the jobs started by these women, the number of weeks not worked by men and women are very similar. Second, for both samples, the duration of job search of men is very close to that of women. Third, differences in age and education are statistically significant for men while differences in education are statistically significant for women. Of all workers who found new full-time jobs in 1989-90, those who had not completed high school had spells of non-employment or spells of job search which were between 1 to 6 weeks longer than those of workers with more than high school. Of all men who found new full-time jobs during that period, those aged 55 to 64 took 3 to 4 weeks longer to find a job than those aged 35 to 54.

### 3.5.2 Jobs for which individuals report having difficulty when looking for work

When a person reports looking for work before starting a job, LMAS asks the following question:

- "Did any of the following cause [you] difficulty when looking for work ?
- a) not having enough information about available jobs
  - b) not having the skills or experience for available jobs
  - c) not having enough education for available jobs
  - d) having a long-term physical condition, mental condition or health problem
  - e) a shortage of jobs in the area
  - f) anything else "

Table 21 presents the answers to this question. The percentages indicate for what fraction of jobs obtained through job search individuals had difficulty when looking for work<sup>16</sup>. Aside from shortage of jobs, lack of skills or experience and lack of education are the two most frequently cited factors causing difficulty when looking for work. Lack of information about jobs ranks third.



Table 22 shows how frequently these last three factors are cited, depending on individual characteristics. As expected, young workers report lacking skills or experience more often than their older counterparts. Similarly, workers who have not completed high school report lacking education 4 times more often than those who have a university degree. Workers with a trades certificate or diploma report lacking skills, experience or education in a relatively few number of cases.

Workers aged 55 to 64 report lacking information about jobs more often than other workers. This is consistent with the greater difficulty - as measured by the number of weeks not worked and the number of consecutive weeks of job search - they experience finding new jobs. The frequencies with which men and women report lacking information, skills, experience or education are very similar. For each of these three factors, members of visible minorities and disabled people report having difficulty when looking for work more often than other people.

### 3.5.3 Part-time jobs started during the period and for which individuals would have preferred working full-time

Some of the individuals who started part-time jobs during the period would have preferred working full-time. Table 23 compares the distribution of part-time jobs started in 1989-90 with a new employer and for which individuals would have preferred working full-time with the distribution of part-time jobs held in September 1989. If all individuals had the same mobility and if they were equally satisfied with part-time jobs, both distributions would be identical. Higher percentages in the first column may simply reflect the fact that some workers are more mobile than others. Alternatively, it may reflect the fact that they are generally less satisfied with part-time jobs, i.e. they would prefer working full-time in relatively more cases. For instance, while men held 29 % of part-time jobs in September 1989, they started 35 % of part-time jobs for which individuals would have preferred working full-time. If men have the same mobility as women, this could be explained by the idea that men may prefer working full-time in relatively more cases than would women. Similarly, even though they held only 4 % of part-time jobs in September 1989, disabled people started 7 % of part-time jobs for which individuals would have preferred working full-time. Once more, as long as the mobility of disabled people does not exceed that of other people - which is likely to be the case - this could reflect the fact that disabled people would prefer working full-time relatively more often than other people.

The same pattern is observed for low educated workers. While men (women) who have at most completed high school held 52 % (48 %) of part-time jobs in September 1989, they started 66 % (64 %) of part-time jobs for which individuals would have preferred working full-time. As argued above, this may occur if these workers are intrinsically more mobile than other workers and/or if they prefer working full-time relatively more often. Thus, even though these figures may result from differences in mobility between individuals, they are consistent with the idea that the degree of rationing faced by workers in part-time jobs is the highest for low educated workers.



### 3.6 Which individuals are most likely to start "good" jobs?

Defining a "good" job requires taking account of the non-pecuniary aspects of that job (e.g. sense of achievement, safety on the workplace, extent to which the job is "boring") as well as the financial package it offers. Since LMAS contains no data on non-pecuniary aspects of jobs, we restrict our attention to the two following job characteristics : 1) wages and 2) pension plan coverage.

#### 3.6.1 Wages

Full-time jobs started in 1989-90 with a new employer paid on average \$ 11.45 per hour (Table 24). Women, members of visible minorities and disabled people limited at work received lower wages than other individuals. Many factors may explain these differences. First, the average education level of various groups of individuals may differ. Second, the occupations selected by various workers may differ widely. Women, for instance, are much more predominant in clerical and services-related occupations than men. Third, within education levels, individuals may have unobserved characteristics which make them more or less productive. Fourth, some individuals may face discrimination on the labour market and thus receive lower wages. Quantifying the influence of each of these factors is beyond the scope of this paper.

Table 25 shows, for various education levels and age groups, the hourly wages received by both men and women in full-time jobs started in 1989-90 with a new employer. As expected, wages generally increase with education. Interestingly, men with a trades certificate or diploma from a vocational school or apprenticeship training receive substantially higher wages than men who have graduated from high school but have not received any other education. At the aggregate level, the percentage wage differential between workers with a university degree and those with less than high school varies between 50 % for men and 110 % for women.

For both men and women, the lowest wages are generally received by those who are aged 16 to 24 and who are relatively low-educated. Workers aged 16 to 44 receive higher wages as they get older. However, wages do not increase monotonically with age.

To measure the influence of various individual characteristics on wages obtained in new jobs, we first regress the natural logarithm of hourly wages on age, education, visible minority status and disability status. This is done separately for men and women (Table 26 - Model 1). This is a very crude specification. Since wages differ across industries [Gera and Grenier (1991)] and across firms of different sizes [Morissette (1991)], we then add controls for industry, firm size, as well as for union status and occupation (Table 26 - Model 2). We focus our attention on this second specification.

Four points are worth noting. First, as shown in Table 25, wages do not increase monotonically with age. Wages received by men and women aged 45 years or more are not different from those earned by workers aged 35 to 44<sup>17</sup>. Second, as expected, higher education generally leads to higher wages. Wages received by men (women) with a university degree are 31 % (54 %) higher than those received by men (women) who have not completed high school<sup>18</sup>. Third, members of visible minorities appear to receive lower wages than other individuals. The wage differential varies between 10 % and 14 %. Fourth, disabled men who are completely prevented from working or limited at work receive lower wages than other male workers ; the wage differential equals 21 %. As mentioned above, these wage differentials may be due to many factors ; 1) the occupational and/or industrial distribution of employment may differ across groups within the broad occupations and industries used in Model 2, 2) various individuals may have different unobserved characteristics which make them more or less productive, 3) some groups may face discrimination on the labour market.

Table 27 shows what proportion of full-time jobs started in 1989 with a new employer provide annual earnings which are below Statistics Canada's Low Income Measure (LIM) for one person. This measure is simply equal to half of the median income received by unattached individuals ; it equals \$ 11,351 in 1989. The annual earnings are calculated by multiplying each worker's hourly wage by either 1,750 hours (i.e. 35 hours per week times 50 weeks) or 2,000 hours (i.e. 40 hours per week times 50 weeks). For both number of hours, the proportion of jobs whose annual earnings are less than LIM is two times higher for workers aged 16 to 24 than for workers aged 25 to 44. As expected from Table 19, it is also higher for women, members of visible minorities and disabled people. It is also much higher for workers with less than high school than for those with more than high school. This is particularly true for women (Table 28).

### 3.6.2 Pension plan coverage

Of all full-time jobs started in 1989-90 with a new employer, 24 % were covered by a pension plan (Table 29). The jobs started are more often covered by pension plans for men than for women. Similarly, the jobs started by disabled people have lower pension plan coverage than those found by other individuals. Higher education is generally associated with higher pension plan coverage. Workers with a trades certificate or diploma have much higher pension plan coverage than those who have only graduated from high school ; recall that men with a trades certificate or diploma also receive much higher wages than men who only have graduated from high school (Table 25).

Pension plan coverage of new full-time jobs increases with age for workers between 16 and 44 years old. However, it is much lower for workers aged 45 years or more than for those aged 35 to 44. More precisely, among men who completed at least high school, it is roughly ten percentage points lower for those aged 45 to 54 than for those aged 35 to 44 (Table 30). In contrast, the pension plan coverage of full-time jobs held at one point in time (e.g. September 1989) is very similar for these two groups of men; roughly 70 % of them are covered by a pension plan (Table 31, column 2). Why is it so ?



Perhaps, men aged 45 to 54 who found new full-time jobs in 1989-90 were, to a **greater extent** than men aged 35 to 44, in occupations with low pension plan coverage. To test this hypothesis, we construct a sample which consists of the two following subsamples : 1) full-time jobs started in 1989-90 and not held in September 1989 and 2) full-time jobs held in September 1989. Using a logit model, we estimate the probability that a job will be covered by a pension plan. The dependent variable equals 1 when a job is covered by a pension plan, 0 otherwise. The probability of being covered by a pension plan is modelled as a function of a constant term and the following set of explanatory variables :

- 1) age
- 2) education
- 3) occupation.

The model contains interaction terms which allow the influence of all explanatory variables to differ depending on whether the job was obtained in 1989-90 with a new employer or not. The model is estimated separately for men and women (Appendix 4).

Even after controlling for occupational choice, the probability that a new full-time job will be covered by a pension plan is lower for men aged 45 to 54 (20 %) than for men aged 35 to 44 (28 %) [Table 32, column 1]. In contrast, the probability that a job held in September 1989 will be covered by a pension plan is, if anything, higher for men aged 45 to 54 (72 %) than for men aged 35 to 44 (66 %) [Table 32, column 2]. Unless differences in occupational choice occur at a finer level of disaggregation than that used in our model, this may be evidence that workers aged 45 to 54 faced greater difficulty finding good jobs in 1989-90 than workers aged 35 to 44.

Tables 24 to 32 thus suggest that, of all individuals, highly educated men aged 35 to 44 are the most likely to start jobs paying high wages and being well covered by pension plans. Pension plan coverage of new full-time jobs started by men aged 45 to 54 is lower than that for men aged 35 to 44. At the other end of the spectrum, women aged 16 to 24 who have not completed high school are most likely to start jobs which provide annual earnings below some poverty line and which are rarely covered by a pension plan.

### 3.7 Which individuals are employed for most of the period ?

Individuals with a university degree are much more likely to be employed all weeks of 1989-90 than those who have not completed high school (Table 33). Conversely, individuals who are disabled and completely prevented from working or limited at work are much less likely to be employed for the whole period than other individuals. In 1989-90, men with a university degree worked on average 7 weeks and 239 hours more than those who had not completed high school (Tables 34 and 35). Women with a university degree worked on average 13 weeks and 564 hours more than those who had not completed high school. Disabled people were employed 13



weeks less than other individuals and worked between 435 and 686 hours less during that period. Note that even though men aged 16 to 24 worked 8.7 weeks less than men aged 35 to 44, the former worked 304 hours more than the latter. Similar figures are observed for women. This suggests that young workers work more hours per week than workers aged 35 to 44. Furthermore, although members of visible minorities are not employed during more weeks than other individuals (Table 34), they work slightly more hours (Table 35).

### 3.8 Summary of the results

In this section, we studied the extent to which individuals who are already on the labour market or who are returning to the labour market are successful getting new jobs. To do so, we analyzed the transitions into employment of individuals who were not in school at any time in 1989-90 and who were employed at some point during that period. Seven questions were asked about these individuals. The answers to these questions can be summarized as follows.

- 1) the vast majority of these individuals are less than 55 years old and have at least a high school diploma. They are much more educated than individuals who were not in school at any time in 1989-90, who had no jobs during that period and wanted to work at some point during that period ;
- 2) almost 20 % of these 12.5 million individuals started a job each year either with a new employer or with a former employer. At least 10 % of them started a job with a new employer ;
- 3) young workers are more likely to start new jobs than older workers. Similarly, white-collar and blue-collar workers are more likely to start new jobs than professionals and managers ;
- 4) compared to jobs held at a given point in time or for the whole year, the jobs started in a given year generally pay lower wages, are less unionized, less covered by pension plans and are obtained more often in small firms than in large firms ;
- 5) (i) in the aggregate, the spells of non-employment preceding the jobs started are much longer for women than for men. However, the difference is totally due to the influence of a small number of women who have non-working periods of 2 years or more. When attention is restricted to a second sample including jobs which started after non-working periods of less than 2 years, the durations of the spells of non-employment of men and women are very similar. For both samples, the duration of job search of men is very close to that of men who started full-time jobs in 1989-90 and who had non-working periods shorter than 2 years : a) those who had not completed high school took 3 to 6 weeks longer to find a job than those with more than high school, b) those aged 55 to 64 took 3 to 4 weeks longer to find a job than those aged 35 to 54. Of all women who started full-time jobs in 1989-90 and who had non-working periods shorter than 2 years, those who had not completed high school took 1 to 6 weeks longer to find a job than

those with more than high school ;

(ii) aside from shortage of jobs, lack of skills or experience and lack of education are the two most frequently cited factors causing individuals difficulty when they look for work. Young workers report lacking skills or experience more often than their older counterparts. Workers who have not completed high school report lacking education 4 times more often than those who have a university degree. Workers aged 55 to 64 report lacking information about jobs more frequently than younger workers. Members of visible minorities and disabled people report lacking information, skills, experience and education more often than other people ;

(iii) figures on the number of part-time jobs started during the period and for which individuals would have preferred working full-time are consistent with the idea that men, low educated workers and disabled workers would prefer working full-time relatively more often than other individuals ;

6) hourly wages received in new full-time jobs increase with education. Hourly wages received by individuals with a university degree are between 29 % and 52 % higher than those received by individuals who have not completed high school. After controlling for personal characteristics, union status, firm size, broad industries and occupations, members of visible minorities and disabled men receive lower wages than other workers. Of all individuals, highly educated men aged 35 to 44 are the most likely to start jobs paying high wages and being well covered by pension plans. At the other end of the spectrum, women aged 16 to 24 who have not completed high school are most likely to start jobs which provide annual earnings below some poverty line and which are rarely covered by a pension plan.

7) of all individuals, men with a university degree are the most likely to be employed all weeks of 1989-90. Disabled people are much less likely to be employed for the whole period than other individuals.

#### **4. Individuals not in school at any time in 1989-90, without a job in 1989-90 and who wanted to work at some point during this period**

In the last section, we analyzed the transitions into employment of individuals not in school at any time in 1989-90 and who were employed at some point during that period ; this population amounted to 12.50 million individuals (Table 1). In this section, we consider a population which is 37 times smaller than the former ; individuals not in school at any time in 1989-90, not employed at any time during that period and wanting a job at some point during that period. These represent 0.33 million individuals. Essentially, we ask two questions : 1) of all individuals not in school at any time in 1989-90, which are more likely to be not employed at all during the whole period while wanting to work at some point during the period, 2) to what extent do some



factors cause these individuals difficulty when looking for work or prevent them from looking for work.

#### 4.1 Which individuals are more likely to be without a job for the whole period while wanting to work at some point during the period ?

Of all individuals not in school at any time in 1989-90, only 2 percent had no jobs for the whole period and wanted to work at some point during that period (Table 36). Women, members of visible minorities and disabled people limited at work are more likely to be part of this group than other individuals. The difference in the percentages between disabled people limited at work and individuals not disabled is particularly striking. This may reflect a higher probability for disabled people limited at work of experiencing long-term unemployment. The risk of being without a job for the whole period also varies with age and education. Individuals who have not completed high school are almost three times more likely to be not employed for the whole period than those who have more than a high school diploma. Individuals aged 55 to 64 are almost two times more likely to be not employed for the whole period than those aged 16 to 24. Once more, this may reflect severe adjustment problems for older workers ; this in turn would lead some of them to face long-term unemployment. Thus, the younger and the more educated an individual is, the less likely he/she is to be without a job for the whole period.

#### 4.2 To what extent do some factors cause individuals difficulty when looking for work or prevent them from looking for work ?

Table 37 divides the population of individuals not in school at any time in 1989-90, not employed at all for the whole period and wanting to work at some point during the period into four groups : 1) individuals who looked for work at some point in 1989, 2) individuals who looked for work at some point in 1990, 3) individuals who wanted to work at some point in 1989 but who did not look for work during that year and 4) individuals who wanted to work at some point in 1990 but who did not look for work during that year. Since the same individual can fall into two categories, the sum of individuals in each of the four categories (i.e. 416,460) exceeds the population under study (i.e. 334,059). Comparing the first two columns of Table 37 with Table 21, one notes - as expected - that the population under study reports having difficulty when looking for work more often than individuals who found a job in 1989-90. Second, as in Table 21, not having enough information about jobs, not having enough skills or experience and not having enough education are - aside from shortage of jobs - the three most frequently cited factors causing difficulty when looking for work. Third, having a long-term physical condition, mental condition or health problem appears to cause difficulty when looking for work more often for the population under study than for those who found a job in 1989-90.

Columns 3 and 4 of Table 37 focus on individuals who were prevented from looking for work for some reason. Of all the reasons cited, being disabled is the most important. Roughly half the individuals in this category reported that having a long-term physical condition, mental condition



or health problem prevented them - along with other factors - from looking for work. Lack of information, skills, experience or education appear to be less important for this group than for those who did look for work (columns 1 and 2).

## 5. School-to-work transitions

In section 3, we analyzed the transitions into employment of individuals already on the labour market or returning to the labour market. In section 4, we identified some factors preventing individuals from making transitions into employment. We now turn to school-to-work transitions.

Table 38 shows the distribution of individuals who were in school part of the 1989-90 time interval. Roughly three quarters of these individuals are 16 to 24 years old. Individuals who were in school part of the period are classified into three groups : 1) those who were in school in 1989 but not in school in 1990, 2) those who returned to school in 1990 and 3) those who were in school both years but not during four consecutive semesters. As will be shown below, seam problems and sample size problems limit considerably the analysis that can be conducted. Because of sample size problems, we restrict our analysis to the first two groups.

### 5.1 Individuals in school in 1989 but not in 1990

Table 39 presents the distribution of individuals in school in 1989 but not in 1990 according to the last month they spent in school in 1989. Quite surprisingly, 40 % of these individuals report finishing school in December 1989. Three factors may explain this pattern. First, some individuals - mostly those aged 25 years or more - may have completed their education in "non-conventional" school programs which end in December. Second, perhaps a high proportion of school dropouts leave school in December. Third, LMAS may be subject to a seam problem [Kaliski (1992), Lemaitre (1992)] : this would occur if some individuals who actually finished school at some point in **1989 or 1990** responded in such a way that they were coded as finishing school at the end of 1989. The first two hypotheses can be tested by comparing LMAS's distribution of last months spent in school by high school dropouts to the distribution derived from the School Leavers Survey (Table 40). The sample selected consists of individuals who are between 16 and 18 years old in 1989. The message of Table 40 is clear : while LMAS suggests that the highest number of dropouts is observed in December, the School Leavers Survey shows that most students do dropout of school in June. This is evidence against the second hypothesis. Since the sample selected consists of individuals who are young and thus unlikely to attend "non-conventional" school programs, this also provides evidence against the first hypothesis. Thus, following Kaliski (1992), our results suggest that LMAS data on school-to-work transitions is subject to a seam problem. In other words, a few or many of the individuals who reported finishing school in December 1989 may have actually finished at some point in 1989 or in 1990. This makes the analysis of school-to-work transitions more difficult than previously expected<sup>19</sup>.

We decide to restrict our attention to individuals whose last month reported in school in 1989 is other than December. Table 41 shows that, compared to the subsample of individuals apparently finishing school in December, the subsample selected consists of relatively fewer individuals who are between 16 and 19 years and who have not completed high school. As long as very young and low-educated individuals face greater difficulty moving into the labour market than other individuals in the 16 to 24 age group, one has to keep in mind that our subsample probably underestimates the adjustment problems faced by the population of individuals aged 16 to 24 making school-to-work transitions between 1989 and 1990.

If annual earnings in 1990 are a good measure of success in the labour market, then highly educated individuals leaving school appear to be more successful than their less educated counterparts. More specifically, men and women with a university degree earned in 1990 twice as much as those who had not completed high school (Table 42). Men with a trades certificate or diploma exhibit much higher earnings than men with only a high school diploma. The differences in earnings observed across education levels may be due to many factors. Perhaps the proportion of highly educated people who had a job in 1990 was much higher than that for less educated individuals. Table 43 does not support this idea : the proportion of individuals having a job in 1990 does not vary much across education levels. Another argument may be that of all individuals who had a job in 1990, those who were highly educated worked many more hours than their less educated counterparts. The second part of Table 44 does not support this hypothesis either ; the number of hours worked by those who had a job in 1990 generally does not vary much across education levels. Most of the differences in earnings originate from differences in hourly wages. In 1990, the hourly wages paid to individuals with a university degree were between 70 % and 80 % higher than those received by individuals who had not completed high school.

Approximately 75 % of individuals finishing school in 1989 started a full-time job either in 1989 or 1990 (Table 45). The proportion of individuals starting a full-time job is slightly higher for men than for women. It does not vary much across education levels. On average, 4 months elapsed between the time individuals left school and the time they started their first full-time job. Women took roughly one month more than men to find their first full-time job. The time elapsed between the last month spent in school and the start date of the first full-time job is fairly constant across education levels. While education does not seem to have much influence on the time it takes for an individual to get a first full-time job after leaving school, **given that this individual did find a job**<sup>20</sup>, it does have a sizable impact on the hourly wage rate received in that first full-time job. On average, individuals who have more than a high school diploma receive 50 % higher wages than those who have not completed high school. The percentage wage differential varies between 30 % for men and 80 % for women. Finally, individuals with high levels of education are more likely to be employed all year long than less educated individuals (Table 46).

Tables 42 to 46 thus suggest that higher education leads to more successful school-to-work transitions. Higher education does not seem to have much influence on one individual's chances of finding a full-time job one year after leaving school. Nor does it seem to affect much the time



it takes for one individual who **did** find a full-time job to get that job. However, higher education generally leads individuals to receive higher wages when they make a transition from school to full-time work<sup>21</sup>.

## 5.2 Individuals returning to school in 1990

Of all individuals who were not in school in 1989 and who either were employed or wanted to work at some point, roughly 2 percent returned to school in 1990 (Table 47). The chances of returning to school are at least four times higher for individuals aged 16 to 24 than for older people. One explanation is that the opportunity cost of returning to school is lower for young individuals than for their older counterparts. Moreover, the benefits of an extra year of schooling can be reaped over more years, the younger the individual is. The chances of returning to school do not vary much across education levels. On average, individuals with annual earnings below Statistics Canada's Low Income Measure (\$ 11,351 for one adult in 1989) are two times more likely to return to school than other individuals. As long as low annual earnings mainly reflect individuals' problems in achieving success in the labour market (rather than a voluntary decision to work few hours per year), this indicates that individuals who have a "tough time" on the labour market are more likely to return to school than others.

## 6. Conclusions

This paper has presented recent evidence on hirings in Canada. It has highlighted a few points. First, as previous work showed [Statistics Canada (1992)], the number of hirings which occur in a given year is substantial. Second, the jobs obtained are - at least in terms of wages and pension plan coverage - generally of lower quality than jobs held at a given point in time. This is consistent with the idea that worker turnover is lower in "good" jobs than in "bad" jobs. Third, for the population of individuals who were not in school at any time in 1989-90 and who started full-time jobs in 1989-90, education affects : 1) the time it takes to find a job, 2) the wages received in that job, 3) the pension plan coverage of that job. Fourth, male workers aged 55 to 64 appear to have greater difficulty finding new jobs than their older counterparts. Fifth, controlling for personal characteristics, union status, firm size, broad industrial and occupational groups, the wages received in new full-time jobs are lower for members of visible minorities and disabled men than for other workers. In many cases, these findings confirm the results obtained in previous studies.

A few points may be worth exploring. First, the fact that the full-time jobs started in 1989-90 by men aged 45 to 54 have lower pension plan coverage than those started by men aged 35 to 44 may be evidence that the former experienced greater difficulty finding jobs than the latter. It suggests that adjustment problems may not be limited to male workers aged 55 to 64. Second, members of visible minorities report lacking information about jobs more often than other



individuals. This suggests that they may have a more limited knowledge of labour market institutions and/or that they may, to a lesser extent than other individuals, belong to networks which possess information on job opportunities.

1. The figures presented in Table 2 exclude jobs started at the beginning of a year and thus underestimate the number of jobs started with a new employer. Jobs started at the beginning of a year are excluded because LMAS's questionnaire does not allow to partition them into : a) those started with a new employer and b) those started with a former employer. The number of jobs started at the beginning of 1989 (1990) equals roughly 400,000 (750,000). Consequently, the number of jobs started in 1989 (1990) with a new employer lies between 3.3 and 3.7 million (2.6 and 3.35 million).

2. Part of the individuals who are not in school at any time in 1989-90 and who are employed at some point during that period finished school in 1988 and made school-to-work transitions between 1988 and 1989-90.

3. Obviously, one may be tempted to conclude from these aggregate data that visible minorities and/or disabled people face discrimination on the labour market. To test this hypothesis, one needs controlling in depth for differences in labour supply behaviour between various groups (which requires taking account of, at least, potential differences in the age, sex and education composition of these groups). This has not been done in Table 3.

4. The number of individuals who started at least one **full-time** job with a new employer is equal to : a) 1,976,078 in 1989-90, b) 1,266,690 in 1989 and c) 982,637 in 1990. Since these estimates include only jobs for which it is possible to distinguish new employers from former employers (see section 2), they underestimate to some extent the true number of individuals who started full-time jobs with a new employer during the period under study.

5. For reasons mentioned in section 2, the estimate of the number of jobs started with a new employer does not include jobs started at the beginning of the year, some of which are obtained with a new employer. This tends to underestimate the true number of jobs started with a new employer. As a result, the number of **individuals** starting jobs with a new employer is also likely to be underestimated.

6. Of all jobs started in 1989-90 with a new employer, the share of part-time jobs equals 37 % for women and 14 % for men.

7. Sample size does not allow us to replicate Table 7 for members of visible minorities or for disabled people. Appendix 2 presents the distribution of employment by occupation and industry for these two groups as well as for individuals not belonging to visible minorities or not disabled.

8. The number of consecutive weeks of job search is derived from the following question : "In how many consecutive weeks before the start of this job [were you] looking for work ?". This question is asked only to those respondents who both : a) had a non-working period prior to starting the job and b) looked for work during this period. In cases where jobs are not preceded by any non-working periods and in cases where jobs are preceded by a non-working period during which the person did not look for work, the number of consecutive weeks of job search

is set to zero. Moreover, the maximum number of consecutive weeks of job search is set equal to 98.

9. It must be emphasized that both the **number of weeks not worked** and the **number of consecutive weeks of job search** are **not** derived through LMAS's filter and thus are immune to Jones and Riddell's (1991) criticism. These authors suggest that the number of weeks **unemployed**, as derived from LMAS, does not provide an accurate measure of the duration of spells of unemployment which occur prior to the start of a job. This is so because LMAS's filter implies that any non-employment spell observed prior to a spell of job search preceding the start of a job will be coded as time out of the labour force. In other words, the transition E-U-N-U-E (E : employed, U : unemployment, N : out of the labour force) will be recorded as E-N-U-E. If interruptions in job search (i.e. ...U-N-U...) are common, then LMAS's filter will produce biased estimates of the number of weeks unemployed prior to the start of a job. Lemaitre (1992) analyzes data from the Annual Work Pattern Survey and argues that interruptions in job search are not common.

10. These jobs are jobs preceded by a non-working period during which the person looked for work.

11. The analysis of duration of non-working periods and of spells of jobs search concentrates on jobs started by individuals who had already worked at some point before getting these jobs. Individuals who had never worked before getting a job are therefore excluded. Full-time jobs started by this latter group account for only 1.1 % of all full-time jobs started in 1989-90 with a new employer.

12. In 1989, full-time jobs account for 86 % of all jobs started by men with a new employer and for 64 % of all jobs started by women with a new employer.

13. Alternatively, a non-working period before a job does not necessarily have to involve a spell of job search which would be significant in the mind of the respondent. Cases of prearranged employment (future starts) and job queries that result in immediate employment could fall under that category. We have no measure of the importance of these cases.

14. Because of small sample size, differences in the duration of spells of non-employment (job search) between women aged 35 to 54 and women aged 55 to 64 are not reported in Table 18.

15. The probability of starting a job preceded by a non-working period (job search) is estimated using a logit model. The expected duration of spells of non-employment (job search) in jobs preceded by non-working periods (job search) is estimated using ordinary least squares. The expected duration of spells of non-employment (job search) is calculated by multiplying the probability of starting a job preceded by a non-working period (job search) by the expected duration of spells of non-employment (job search) in jobs preceded by non-working periods (job search). This assumes that the random factors determining the probability of starting a job preceded by a non-working period (job search) are independent from the random factors



determining the duration of spells of non-employment (job search) in jobs preceded by non-working periods (job search). Otherwise, sample selection models have to be used.

16. Since many factors can be invoked for a single job, the sum of the percentages exceeds 100 %.

17. An F-test shows, for both men and women, that wages received by workers aged 45 to 54 and by workers aged 55 to 64 do not differ (at the 5 % level) from wages received by workers aged 35 to 44.

18. The percentage wage differential is equal to the antilog of the regression coefficient minus 1. For instance, the percentage wage differential between men with a university degree and men who have not completed high school is equal to 31 %, i.e.  $\exp(0.273) - 1$ .

19. As pointed out by Steve Roller and Scott Murray (from Special Surveys Group), the figures presented in Table 40 include individuals who took only a short period of full-time schooling in 1989 (e.g. 1, 2 or 3 months) and thus overestimate the number of school leavers in December relative to those observed in June. However, this does not alter the conclusion that a seam problem for full-time school attendance exists in LMAS 1988-90.

20. This is not a statement about the duration of unemployment of those who did **not** find a full-time job either in 1989 or 1990. For these individuals, higher education could be associated with shorter spells of unemployment. If so, higher education would lead, in the aggregate, to shorter spells of unemployment or to a shorter period between the last month spent in school and the start date of the first full-time job.

21. Sample size limitations do not allow us to conduct a detailed analysis of the occupations selected by individuals making school-to-work transitions.

## References

- Galarneau, D. (1992) "Le roulement de la main-d'oeuvre : les embauches", L'emploi et le revenu en perspective, Été 1992, 56-64.
- Gera, S. and G. Grenier (1991) "Interindustry Wage Differentials in Canada : Evidence and Implications" in "Canadian Unemployment : Lessons from the 80s and Challenges for the 90s", edited by S. Gera, Economic Council of Canada.
- Jones, S. R. G. and W. C. Riddell (1991) "The Measurement of Labour Force Dynamics with the Labour Market Activity Survey : The LMAS Filter", Paper presented to the 1991 Meetings of the Canadian Economics Association, Kingston.
- Kaliski, S. F., M. A. Abbott and C. M. Beach (1992) "School Leavers from the 1986-87 LMAS : A Seam Problem", Mimeo.
- Lemaître, G. (1992a) "The Measurement of Job Search and Unemployment in a Retrospective Setting", Study prepared for Statistics Canada, 33 p.
- Lemaître, G. (1992b) "The Seam Problem in Longitudinal Surveys", Study prepared for Statistics Canada, 30 p.
- Morissette, R. (1991) "Canadian Jobs and Firm Size : Do Smaller Firms Pay Less ?", Research Paper no. 35, Analytical Studies Branch, Statistics Canada, 54 p.
- Morissette, R. (1992) "Recent Evidence on Quit Rates in Canada : Do Women Quit More Often Than Men ?", Paper presented to the 1992 Meetings of the Canadian Economics Association, Charlottetown, 24 p.
- Morissette, R., G. Picot and W. Pyper (1992) "Workers on the Move : Quits", Perspectives on Labour and Income, Autumn 1992, 8-17.
- Picot, G. (1992) "Workers on the Move : Layoffs". Perspectives on Labour and Income, Autumn 1992, 18-27.
- Picot, G. and J. Baldwin (1990) "Patterns of Quits and Layoffs in the Canadian Economy", Canadian Economic Observer, October 1990, 4.1-4.28.
- Statistics Canada (1992) "Worker Turnover in the Canadian Economy : Separations and Hiring, 1978-1989. Cat. 71-539, 71 p.
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**Table 1 :      Distribution of population aged 16 to 69, by selected characteristics, 1989-90.**

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1) Individuals not in school <sup>1</sup> at any time in 1989-90 :	15,695,547 (87.4 %)
a) with a job at some point in 89-90 :	12,505,043
b) without any job in 89-90 :	3,190,504
i) did not want to work at any time in 89-90	2,856,445
ii) wanted to work at some point in 89-90	334,059
2) Individuals in school for the whole period <sup>2</sup> :	758,932 (4.2 %)
3) Individuals in school part of the period :	1,512,580 (8.4 %)
a) in school in 1989 but not in 1990 :	598,563
b) in school in 1990 but not in 1989 :	317,087
c) in school both years but not for the whole period :	596,930
<b>Total population aged 16 to 69</b>	<b>17,967,059</b> <b>(100.0 %)</b>

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1. 'Not in school' refers to individuals not in school **full-time**.

2. Individuals in school for the whole period are defined as those who are in school full-time in January-April and September-December of both 1989 and 1990.

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**The Labour Market Activity Survey of 1988-90 is the source of all tables.**

**Table 2 :      Jobs started in 1989-90 with a new employer :**  
**(1) by individuals not in school at any time in 1989-90 ;**  
**(2) by individuals in school for the whole period ;**  
**(3) by individuals in school part of the period ;**  
**(4) : (1) + (2) + (3)**

	(1)	(2)	(3)	(4)
<b>Jobs started in 1989</b>	<b>1,979,983</b>	<b>395,363</b>	<b>893,842</b>	<b>3,269,188</b>
<b>Jobs started in 1990</b>	<b>1,468,039</b>	<b>353,854</b>	<b>742,947</b>	<b>2,564,840</b>
Number of individuals :	12,505,043	758,932	1,512,580	14,776,555
Number of jobs started per person in :				
1989	0.16	0.52	0.59	0.22
1990	0.12	0.47	0.49	0.17

**Table 3 : Distribution of individuals :**  
 (1) not in school at any time in 1989-90,  
 (2) not in school at any time in 1989-90 and with a job at some point in 1989-90,  
 (3) not in school at any time in 1989-90, without any job at any time in 1989-90 and who did not want to work at any time in 1989-90,  
 (4) not in school at any time in 1989-90, without any job at any time in 1989-90 and who wanted to work at some point in 1989-90,  
 by selected characteristics.

	(1)	(2)	(3)	(4)
<b>Age</b>				
16-24	10.7	12.7	2.3	7.7
25-34	27.4	31.4	10.2	25.9
35-44	24.0	27.4	9.4	23.6
45-54	16.8	17.5	13.0	19.5
55-64	14.8	9.8	36.1	19.0
65-69	6.3	1.2	29.0	4.3
<b>Sex</b>				
Men	49.4	54.8	27.6	33.7
Women	50.6	45.2	72.4	66.3
<b>Education</b>				
Less than high school	31.0	24.6	56.9	51.4
graduated from high school	24.2	25.0	20.8	20.8
trades cert. or diploma	5.3	5.8	3.6	3.5
some post-secondary	9.3	10.3	5.5	7.3
post-sec. cert. or diploma	15.5	17.3	8.4	9.9
university degree	14.7	17.1	4.9	7.1
<b>Member of a visible minority ?</b>				
yes	5.0	5.3	3.0	9.6
no	94.4	94.1	96.5	89.1
not stated	0.6	0.6	0.5	1.3
<b>Disability status</b>				
not disabled	82.7	87.5	63.8	64.5
disabled and completely prevented from working or limited at work	9.0	5.0	24.4	25.9
disabled but does not know if limited	0.7	0.2	2.4	2.1
disabled but not limited	5.6	5.0	8.4	5.0
not stated	2.1	2.3	1.0	2.5
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Number of individuals</b>	<b>15,695,547</b>	<b>12,505,043</b>	<b>2,856,445</b>	<b>334,059</b>



**Table 4 : Individuals not in school at any time in 1989-90 and with a job at some point in 1989-90 :**

<b>Number of individuals not in school at any time in 1989-90 and with a job at some point during that period</b>			<b>12,505,043</b>
	<b>1989</b>	<b>1990</b>	<b>1989-90</b>
Number of individuals starting at least one job with a new employer	1,614,164	1,286,346	2,518,119
Number of jobs started with a new employer	1,979,983	1,468,039	3,448,022

**Table 5 :** (1) Distribution of jobs started in 1989-90 with a new employer, by individuals not in school at any time in 1989-90 and with a job at some point in 1989-90 (%),  
(2) Distribution of jobs held in September 1989 (%),  
by selected individual characteristics.

	(1)	(2)
<b>Age</b>		
16-24	29.1	22.0
25-34	37.4	30.3
35-44	20.4	24.7
45-54	9.7	15.1
55-64	3.2	7.4
65-69	-	-
<b>Sex</b>		
Men	50.6	54.0
Women	49.4	46.0
<b>Education</b>		
Less than high school	26.3	22.2
graduated from high school	26.5	24.2
trades cert. or diploma	6.6	5.4
some post-secondary	12.2	13.1
post-sec. cert. or diploma	16.6	18.1
university degree	11.8	16.9
<b>Member of a visible minority ?</b>		
yes	5.2	5.7
no	93.8	93.6
not stated	-	-
<b>Disability status</b>		
not disabled	86.3	89.0
disabled and completely prevented from working or limited at work	5.6	3.8
disabled but does not know if limited	-	-
disabled but not limited	4.1	4.6
not stated	3.7	2.5

**Table 6 :** (1) Distribution of jobs started in 1989-90 with a new employer, by individuals not in school at any time in 1989-90 and with a job at some point in 1989-90 (%),  
(2) Distribution of jobs held in September 1989 (%),  
by selected job characteristics.

	(1)	(2)
<b>Industry</b>		
Primary sector	5.0	3.9
Construction	12.3	5.5
Manufacturing	14.9	18.5
Distributive Services	12.0	12.6
Business Services	11.5	10.5
Consumer Services	28.2	22.0
Public Services	16.2	26.9
<b>Occupation</b>		
Professionals and managers	18.1	30.0
White collar workers	43.5	38.4
Blue collar workers	38.4	31.6
<b>Full-time job ?</b>		
yes	74.7	80.7
no	25.3	19.3
<b>Unionized job ?</b>		
yes	18.2	36.7
no	81.8	63.3
<b>Job covered by a pension plan ?</b>		
yes	20.4	48.2
no	79.6	51.8
<b>Firm size</b>		
1-19 employees	34.0	21.2
20-99 employees	19.6	15.7
100-499 employees	11.0	13.6
500 employees or more	22.3	38.4
Size unknown	13.1	11.1
<b>Hourly wages</b>		
Less than \$ 5.00	4.7	4.1
\$ 5.00 - 6.99	21.9	13.3
\$ 7.00 - 8.99	18.6	12.7
\$ 9.00 - 11.99	21.2	20.6
\$ 12.00 - 15.99	16.4	21.8
\$ 16.00 - 19.99	8.1	13.8
\$ 20.00 or more	9.0	13.8
<b>Total</b>	<b>100.0</b>	<b>100.0</b>



**Table 7 :**      **Distribution of full-time jobs started in 1989-90 with a new employer, by individuals not in school at any time in 1989-90 and with a job at some point in 1989-90 (%), by sex.**

	Men	Women
<b>Industry</b>		
Primary sector	7.4	3.5
Construction	23.1	3.0
Manufacturing	18.9	16.5
Distributive Services	15.2	8.0
Business Services	7.8	18.4
Consumer Services	19.7	31.9
Public Services	8.0	18.7
<b>Occupation</b>		
Professionals and managers	8.8	11.4
Natural and social sciences	6.3	10.5
Clerical	5.1	35.7
Sales	8.3	8.7
Services	7.8	16.7
Primary and processing	27.0	10.1
Construction	21.7	1.0
Other	15.2	6.0
<b>Unionized job ?</b>		
yes	22.2	13.5
no	77.8	86.5
<b>Job covered by a pension plan ?</b>		
yes	26.0	20.8
no	74.0	79.2
<b>Total</b>	<b>100.0</b>	<b>100.0</b>

**Table 8 : Ratio of hourly wages in full-time jobs started in 1989 with a new employer to hourly wages in full-year full-time jobs held in 1989, by selected characteristics.**

<b>Men</b>						
Age	16-24	25-34	35-44	45-54	55-64	All age groups
Education						
Less than high school	0.85	0.88	0.95	0.88	0.80	0.81
graduated from high school	0.92	0.87	0.89	0.77	-	0.75
trades cert. or diploma	1.03	0.97	1.09	-	-	1.00
some post-secondary	0.74	0.81	0.93	-	-	0.72
post-sec. cert. or diploma	0.90	0.96	0.95	-	-	0.86
university degree	-	0.97	1.18	-	-	0.87
All education levels	0.87	0.88	0.98	0.84	0.83	0.80
<b>Women</b>						
Age	16-24	25-34	35-44	45-54	55-64	All age groups
Education						
Less than high school	0.93	0.83	0.73	0.78	-	0.78
graduated from high school	0.93	0.84	0.79	0.81	-	0.81
trades cert. or diploma	-	0.79	-	-	-	0.83
some post-secondary	0.95	0.75	0.84	-	-	0.81
post-sec. cert. or diploma	0.93	0.93	0.92	-	-	0.86
university degree	0.96	0.84	1.02	-	-	0.83
All education levels	0.91	0.82	0.81	0.72	-	0.79

**Table 9 : Full-time jobs started in 1989-90 with a new employer :**


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(1) Average number of weeks not worked before starting jobs =	27.7
(2) Proportion of jobs preceded by non working periods (%) times	56.0
(3) Average number of weeks not worked before starting jobs which are preceded by non-working periods	49.4
(4) Average number of consecutive weeks of job search before starting jobs =	6.1
(5) Proportion of jobs preceded by job search (%) times	40.7
(6) Average number of consecutive weeks of job search before starting jobs which are preceded by job search	14.9
(5) / (2) = Proportion of jobs preceded by non-working periods, which were obtained through job search (%)	72.7

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**Table 10 :** Full-time jobs started in 1989-90 with a new employer :  
 (1) Average number of weeks not worked before starting jobs  
 (2) Average number of consecutive weeks of job search before starting jobs,  
 by selected characteristics.

	(1)	(2)
<b>All individuals</b>	<b>27.7</b>	<b>6.1</b>
<b>Sex</b>		
Men	16.9	6.7
Women	43.0	5.2
<b>Member of a visible minority ?</b>		
yes	33.9	5.6
no	27.1	6.1
not stated	-	-
<b>Disability status</b>		
not disabled	24.6	6.0
disabled and completely prevented from working or limited at work	50.5	7.7
disabled but does not know if limited	-	-
disabled but not limited	52.3	6.2
not stated	35.0	5.7
<b>Sample size</b>	<b>7,771</b>	<b>7,569</b>

**Table 11 :      Distribution of duration of non-working periods preceding full-time jobs started in 1989-90 with a new employer, by sex.**

Full-time jobs started by :	Men	Women
Duration of non-working periods	%	%
0-25 weeks	81.3	76.0
26-51 weeks	11.5	10.1
52-103 weeks	4.8	5.6
<b>Less than 2 years</b>	<b>97.6</b>	<b>91.7</b>
104-155 weeks	1.0	2.4
156-207 weeks	0.5	1.0
208-259 weeks	0.2	0.8
260 weeks or more	0.8	3.9
<b>2 years or more</b>	<b>2.4</b>	<b>8.1</b>

**Table 12 :** Full-time jobs started in 1989-90 with a new employer by individuals with non-working periods shorter than 2 years :

(1) Average number of weeks not worked before starting jobs

(2) Average number of consecutive weeks of job search before starting jobs, by selected characteristics.

	(1)	(2)
<b>All individuals</b>	<b>11.2</b>	<b>5.9</b>
<b>Sex</b>		
Men	11.1	6.5
Women	11.5	4.9
<b>Member of a visible minority ?</b>		
yes	11.5	5.6
no	11.2	5.9
not stated	-	-
<b>Disability status</b>		
not disabled	11.0	5.9
disabled and completely prevented from working or limited at work	15.0	6.7
disabled but does not know if limited	-	-
disabled but not limited	9.2	5.0
not stated	13.8	5.5
<b>Sample size</b>	<b>7,390</b>	<b>7,277</b>



Table 13 : Full-time jobs started in 1989-90 with a new employer by men :

## I. Average number of weeks not worked before starting jobs

Age	(1) Less than high school	(2) Completed high school	(3) More than high school	(4) All education levels	(5) [(1) / (3)]	(6) Sample size
16-24	20.5	16.4	9.3	15.6	2.2	1,353
25-34	17.5	13.4	9.0	12.5	1.9	1,681
35-44	26.9	13.4	15.0	18.0	1.8	972
45-54	38.8	22.6	16.1	27.4	2.4	485
55-64	71.4	-	-	46.8	-	179
All ages	26.1	15.1	11.1	16.9	2.4	4,670
Sample size	1,831	1,519	1,320	4,670		

## II. Average number of consecutive weeks of job search before starting jobs

Age	(1) Less than high school	(2) Completed high school	(3) More than high school	(4) All education levels	(5) [(1) / (3)]	(6) Sample size
16-24	8.5	6.3	4.3	6.4	2.0	1,354
25-34	8.6	6.7	4.7	6.3	1.8	1,659
35-44	7.3	7.8	5.3	6.7	1.4	941
45-54	9.7	9.1	5.0	8.0	1.9	468
55-64	11.3	-	-	11.5	-	160
All ages	8.6	6.8	5.0	6.7	1.7	4,582
Sample size	1,779	1,501	1,302	4,582		

The category "completed high school" includes individuals who graduated from high school and individuals with a trades certificate or diploma. The category "More than high school" includes individuals with : a) some post-secondary education, b) a post-secondary certificate or diploma and c) a university degree.

**Table 14 : Full-time jobs started in 1989-90 with a new employer by men with non-working periods shorter than 2 years :**

**I. Average number of weeks not worked before starting jobs**

Age	(1) Less than high school	(2) Completed high school	(3) More than high school	(4) All education levels	(5) [(1) / (3)]	(6) Sample size
16-24	16.7	12.1	7.6	<b>12.1</b>	2.2	1,336
25-34	13.1	10.7	8.0	<b>10.1</b>	1.6	1,656
35-44	12.1	9.9	6.6	<b>9.2</b> <sup>2</sup>	1.8	944
45-54	14.5	13.5	12.2	<b>13.5</b>	1.2	471
55-64	24.9	8.2	-	<b>17.1</b> <sup>2</sup>	-	164
<b>All ages</b>	<b>14.8</b> <sup>1</sup>	<b>11.2</b>	<b>8.1</b> <sup>1</sup>	<b>11.1</b>	1.8	4,571
Sample size	1,776	1,498	1,297	4,571		

1) Test statistic for null hypothesis of no difference between "less than high school" and "more than high school" : 10.30

2) Test statistic for null hypothesis of no difference between "age 55-64" and "age 35-54" : 4.12

**II. Average number of consecutive weeks of job search before starting jobs**

Age	(1) Less than high school	(2) Completed high school	(3) More than high school	(4) All education levels	(5) [(1) / (3)]	(6) Sample size
16-24	8.2	6.2	4.4	<b>6.2</b>	1.9	1,322
25-34	8.4	6.4	4.7	<b>6.1</b>	1.8	1,640
35-44	7.3	7.4	4.5	<b>6.3</b> <sup>4</sup>	1.6	930
45-54	9.3	9.1	5.0	<b>7.8</b>	1.9	464
55-64	10.1	-	-	<b>10.7</b> <sup>4</sup>	-	154
<b>All ages</b>	<b>8.4</b> <sup>3</sup>	<b>6.6</b>	<b>4.8</b> <sup>3</sup>	<b>6.5</b>	1.8	4,510
Sample size	1,740	1,486	1,284	4,510		

3) Test statistic for null hypothesis of no difference between "less than high school" and "more than high school" : 7.48

4) Test statistic for null hypothesis of no difference between "age 55-64" and "age 35-54" : 3.13

Table 15 : Full-time jobs started in 1989-90 with a new employer by women :

## I. Average number of weeks not worked before starting jobs

Age	(1) Less than high school	(2) Completed high school	(3) More than high school	(4) All education levels	(5) [(1) / (3)]	(6) Sample size
16-24	31.4	19.1	9.0	<b>17.2</b>	3.5	944
25-34	93.2	61.2	19.6	<b>46.5</b>	4.8	1,124
35-44	117.5	69.9	30.4	<b>64.0</b>	3.9	667
45-54	88.9	35.2	34.8	<b>54.0</b>	2.6	313
55-64	-	-	-	<b>99.7</b>	-	53
<b>All ages</b>	<b>79.4</b>	<b>46.3</b>	<b>22.3</b>	<b>43.0</b>	3.6	3,101
Sample size	864	1,073	1,164	3,101		

## II. Average number of consecutive weeks of job search before starting jobs

Age	(1) Less than high school	(2) Completed high school	(3) More than high school	(4) All education levels	(5) [(1) / (3)]	(6) Sample size
16-24	4.6	3.8	3.9	<b>4.0</b>	1.2	943
25-34	5.7	6.6	4.6	<b>5.5</b>	1.2	1,060
35-44	8.3	5.8	5.3	<b>6.2</b>	1.6	637
45-54	7.6	3.1	7.1	<b>5.8</b>	1.1	300
55-64	-	-	-	<b>6.6</b>	-	47
<b>All ages</b>	<b>6.2</b>	<b>5.2</b>	<b>4.7</b>	<b>5.2</b>	1.3	2,987
Sample size	824	1,040	1,123	2,987		



**Table 16 : Full-time jobs started in 1989-90 with a new employer by women with non-working periods shorter than 2 years :**

**I. Average number of weeks not worked before starting jobs**

Age	(1) Less than high school	(2) Completed high school	(3) More than high school	(4) All education levels	(5) [(1) / (3)]	(6) Sample size
16-24	13.1	10.9	7.8	<b>9.9</b>	1.7	902
25-34	18.7	14.2	8.9	<b>12.2</b>	2.1	1,013
35-44	11.1	12.2	12.3	<b>12.0</b> <sup>2</sup>	0.9	584
45-54	18.2	7.2	8.9	<b>11.4</b>	2.0	278
55-64	-	-	-	<b>20.9</b> <sup>2</sup>	-	42
<b>All ages</b>	<b>15.0</b> <sup>1</sup>	<b>12.0</b>	<b>9.5</b> <sup>1</sup>	<b>11.5</b>	1.6	2,819
Sample size	748	978	1,093	2,819		

1) Test statistic for null hypothesis of no difference between "less than high school" and "more than high school" : 5.59

2) Test statistic for null hypothesis of no difference between "age 55-64" and "age 35-54" : 1.74

**II. Average number of consecutive weeks of job search before starting jobs**

Age	(1) Less than high school	(2) Completed high school	(3) More than high school	(4) All education levels	(5) [(1) / (3)]	(6) Sample size
16-24	4.4	3.8	3.7	<b>3.9</b>	1.2	893
25-34	6.2	6.3	4.6	<b>5.4</b>	1.3	991
35-44	5.4	5.6	5.0	<b>5.3</b> <sup>4</sup>	1.1	569
45-54	8.0	3.2	6.1	<b>5.7</b>	1.3	274
55-64	-	-	-	<b>8.0</b> <sup>4</sup>	-	40
<b>All ages</b>	<b>5.6</b> <sup>3</sup>	<b>5.1</b>	<b>4.5</b> <sup>3</sup>	<b>4.9</b>	1.2	2,767
Sample size	726	963	1,078	2,767		

3) Test statistic for null hypothesis of no difference between "less than high school" and "more than high school" : 2.01

4) Test statistic for null hypothesis of no difference between "age 55-64" and "age 35-54" : 0.95

**Table 17 :** Full-time jobs started in 1989-90 with a new employer by men with non-working periods shorter than 2 years :

- (1) Average number of weeks not worked before starting jobs =  
 (2) Proportion of jobs preceded by non working periods (%) times  
 (3) Average number of weeks not worked before starting jobs which are preceded by non-working periods,  
 (4) Average number of consecutive weeks of job search before starting jobs =  
 (5) Proportion of jobs preceded by job search (%) times  
 (6) Average number of consecutive weeks of job search before starting jobs which are preceded by job search,

by selected characteristics.

	(1)	=	(2) (%)	*	(3)
<b>Education</b>					
a) Less than high school	14.8		64.8		22.9
b) More than high school	8.1		45.0		18.0
a) / b)	1.8		1.4		1.3
<b>Age</b>					
c) 35-44	9.2		50.0		18.5
d) 55-64	17.1		73.1		23.4
d) / c)	1.9		1.5		1.3
	(4)	=	(5) (%)	*	(6)
<b>Education</b>					
a) Less than high school	8.4		52.7		15.9
b) More than high school	4.8		33.4		14.5
a) / b)	1.8		1.6		1.1
<b>Age</b>					
c) 35-44	6.3		40.7		15.4
d) 55-64	10.7		57.9		18.5
d) / c)	1.7		1.4		1.2

**Table 18 :** Full-time jobs started in 1989-90 with a new employer by women with non-working periods shorter than 2 years :

- (1) Average number of weeks not worked before starting jobs =  
 (2) Proportion of jobs preceded by non working periods (%) times  
 (3) Average number of weeks not worked before starting jobs which are preceded by non-working periods,  
  
 (4) Average number of consecutive weeks of job search before starting jobs =  
 (5) Proportion of jobs preceded by job search (%) times  
 (6) Average number of consecutive weeks of job search before starting jobs which are preceded by job search,

by selected characteristics.

	(1)	=	(2) (%)	*	(3)
<b>Education</b>					
a) Less than high school	15.0		58.3		25.7
b) More than high school	9.5		48.6		19.6
a) / b)	1.6		1.2		1.3
	(4)	=	(5) (%)	*	(6)
<b>Education</b>					
a) Less than high school	5.6		39.1		14.4
b) More than high school	4.5		33.8		13.3
a) / b)	1.2		1.2		1.1



**Table 19 :** Full-time jobs started in 1989-90 with a new employer by men with non-working periods shorter than 2 years :

- (1) Expected number of weeks not worked before starting jobs =  
 (2) Probability that the job started is preceded by a non-working period times  
 (3) Expected number of weeks not worked before starting jobs preceded by a non-working period ;  
 (4) Expected number of consecutive weeks of job search before starting jobs =  
 (5) Probability that the job started is preceded by job search times  
 (6) Expected number of consecutive weeks of job search before starting jobs preceded by job search ;

by selected characteristics.

	(1)	=	(2) (%)	*	(3)
<b>Education<sup>1</sup></b>					
a) Less than high school	12.2		59		20.7
b) More than high school	6.6		40		16.4
a) / b)	1.8		1.5		1.3
<b>Age<sup>2</sup></b>					
c) 35-44	12.2		59		20.7
d) 55-64	16.1		78		20.7
d) / c)	1.3		1.3		1.0
	(4)	=	(5) (%)	*	(6)
<b>Education<sup>1</sup></b>					
a) Less than high school	8.3		50		16.6
b) More than high school	5.3		32		16.6
a) / b)	1.6		1.6		1.0
<b>Age<sup>2</sup></b>					
c) 35-44	8.3		50		16.6
d) 55-64	10.8		65		16.6
d) / c)	1.3		1.3		1.0

1. These figures are calculated for men aged 35-44, not members of visible minorities and not disabled.

2. These figures are calculated for men who have not completed high school, who are not members of visible minorities and not disabled.

The figures presented in this table are based on the regression results of Appendix 3 (Table 1). Coefficients not statistically significant at the 5 % level (two-tailed test) are set equal to zero when computing the probabilities and the expected durations.

**Table 20 :** Full-time jobs started in 1989-90 with a new employer by women with non-working periods shorter than 2 years :

(1) Expected number of weeks not worked before starting jobs =

(2) Probability that the job started is preceded by a non-working period times

(3) Expected number of weeks not worked before starting jobs preceded by a non-working period ;

(4) Expected number of consecutive weeks of job search before starting jobs =

(5) Probability that the job started is preceded by job search times

(6) Expected number of consecutive weeks of job search before starting jobs preceded by job search ;

by selected characteristics.

	(1)	=	(2) (%)	*	(3)
<b>Education<sup>1</sup></b>					
a) Less than high school	15.2		56		27.2
b) More than high school	9.7		46		21.0
a) / b)	1.6		1.2		1.3
	(4)	=	(5) (%)	*	(6)
<b>Education<sup>1</sup></b>					
a) Less than high school	6.0		34		17.6
b) More than high school	5.1		29		17.6
a) / b)	1.2		1.2		1.0

1. These figures are calculated for women aged 35-44, not members of visible minorities and not disabled.

The figures presented in this table are based on the regression results of Appendix 3 (Table 2). Coefficients not statistically significant at the 5 % level (two-tailed test) are set equal to zero when computing the probabilities and the expected durations.

**Table 21 :**    **Jobs : a) started in 1989-90 with a new employer by individuals not in school at any time in 1989-90 and with a job at some point in 1989-90 and b) for which job search is reported. For what percentage of these jobs, did individuals report having difficulty when looking for work because of the following factors ?**

---

I.	Jobs started in 1989 with a new employer :	1,979,983
	Jobs started in 1990 with a new employer :	1,468,039
	Total	3,448,022
II.	Jobs started in 1989-90 with a new employer and for which job search is reported	1,288,892
	Proportion of these jobs in which individuals report having difficulty when looking for work because :	
	a) they did not have enough information about available jobs	16.9 %
	b) they did not have the skills or experience for available jobs	35.7 %
	c) they did not have enough education for available jobs	26.0 %
	d) they had a long-term physical condition, mental condition or health problem	3.5 %
	e) there was a shortage of jobs in the area	64.5 %
	f) of other reasons	8.9 %
	Sample size	4,292

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**Table 22 :** Jobs : a) started in 1989-90 with a new employer by individuals not in school at any time in 1989-90 and with a job at some point in 1989-90 and b) for which job search is reported. For what percentage of these jobs, did individuals report having difficulty when looking for work because of the following factors, by selected characteristics.

	did not have enough information about available jobs	did not have the skills or experience for available jobs	did not have enough education for available jobs
<b>Age</b>			
16-24	16.2	43.7	30.7
25-34	17.8	36.3	27.2
35-44	15.6	28.4	20.8
45-54	16.6	29.5	21.4
55-64	23.3	-	
<b>Sex</b>			
Men	16.2	34.1	25.6
Women	17.9	37.7	26.5
<b>Education</b>			
less than high school	16.9	39.0	36.4
graduated from high school	15.7	42.7	28.4
trades cert. or diploma	11.8	21.2	12.4
some post-secondary	21.2	37.3	25.8
post-sec. cert. or diploma	18.1	30.4	16.4
university degree	17.8	20.7	8.8
<b>Member of a visible minority ?</b>			
yes	27.1	52.5	39.2
no	16.6	34.5	25.0
<b>Disability status</b>			
not disabled	16.4	34.2	24.7
disabled and completely prevented from working or limited at work	25.9	48.7	37.8
disabled but does not know if limited	-	-	-
disabled but not limited	-	-	-
not stated	18.1	48.2	37.3
<b>All</b>	<b>16.9</b>	<b>35.7</b>	<b>26.0</b>
Sample size	4,292	4,292	4,292

**Table 23 :** (1) Distribution of part-time jobs started in 1989-90 with a new employer and for which individuals would prefer working full-time (%),  
(2) Distribution of part-time jobs held in September 1989 (%),  
by selected individual characteristics.

	(1)	(2)
<b>Sex</b>		
Men	35	29
Women	65	71
<b>Member of a visible minority ?</b>		
yes	6	5
no	92	94
not stated	-	-
<b>Disability status</b>		
not disabled	85	90
disabled and completely prevented from working or limited at work	7	4
disabled but does not know if limited	-	-
disabled but not limited	5	4
not stated	3	2
<b>Total</b>	<b>100.0</b>	<b>100.0</b>

<b>Sex</b>	<b>Men</b>		<b>Women</b>	
	(1)	(2)	(1)	(2)
<b>Education</b>				
Less than high school	31	29	31	22
Completed high school	35	23	33	26
More than high school	34	48	36	52
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

**Table 24 :**     **Average hourly wages in full-time jobs started in 1989-90 with a new employer, by selected characteristics.**

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<b>All</b>	<b>\$ 11.45</b>
<b>Sex</b>	
Men	12.78
Women	9.60
<b>Member of a visible minority ?</b>	
yes	10.44
no	11.53
not stated	9.43
<b>Disability status</b>	
not disabled	11.55
disabled and completely prevented from working or limited at work	10.06
disabled but does not know if limited	-
disabled but not limited	11.95
not stated	10.81

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**Table 25 :**        **Hourly wages in full-time jobs started in 1989-90 with a new employer, by selected characteristics.**

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<b>Full-time jobs started by men</b>						
Age	16-24	25-34	35-44	45-54	55-64	All age groups
Education						
Less than high school	8.64	11.35	12.93	12.82	16.59	11.25
graduated from high school	9.29	11.94	14.81	13.92	-	11.20
trades cert. or diploma	10.95	15.11	18.84	20.79	-	16.04
some post-secondary	9.01	11.94	16.44	14.83	-	11.64
post-sec. cert. or diploma	11.12	15.16	15.58	17.18	-	14.52
university degree	12.11	15.33	23.51	17.81	-	17.22
<b>All education levels</b>	<b>9.44</b>	<b>13.08</b>	<b>16.35</b>	<b>15.06</b>	<b>16.05</b>	<b>12.78</b>
<b>Sample size</b>	<b>1,374</b>	<b>1,686</b>	<b>974</b>	<b>485</b>	<b>179</b>	<b>4,698</b>
 <b>Full-time jobs started by women</b>						
Age	16-24	25-34	35-44	45-54	55-64	All age groups
Education						
Less than high school	6.72	7.45	6.81	7.48	-	7.13
graduated from high school	7.34	8.81	8.99	8.54	-	8.35
trades cert. or diploma	7.31	8.36	9.88	-	-	8.45
some post-secondary	8.92	9.51	10.35	-	-	9.50
post-sec. cert. or diploma	10.16	11.88	12.68	10.20	-	11.39
university degree	10.78	14.96	18.42	-	-	14.96
<b>All education levels</b>	<b>8.26</b>	<b>10.29</b>	<b>10.61</b>	<b>8.93</b>	<b>9.86</b>	<b>9.60</b>
<b>Sample size</b>	<b>969</b>	<b>1,149</b>	<b>696</b>	<b>324</b>	<b>55</b>	<b>3,193</b>

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**Table 26 :** Hourly wages in full-time jobs started in 1989-90 with a new employer : regression results.

Explanatory variables	Men		Women	
	Model 1	Model 2	Model 1	Model 2
Intercept	2.136 (0.017) <sup>1</sup>	1.931 (0.036)	1.845 (0.019)	1.998 (0.032)
Age				
25-34	0.238 (0.016)	0.220 (0.015)	0.124 (0.017)	0.104 (0.015)
35-44	0.353 (0.021)	0.300 (0.018)	0.164 (0.019)	0.127 (0.017)
45-54	0.297 (0.025)	0.281 (0.022)	0.121 (0.025)	0.120 (0.022)
55-64	0.291 (0.041)	0.233 (0.037)	0.099 * (0.055)	0.084 * (0.050)
Education				
Graduated from high school	0.093 (0.019)	0.085 (0.017)	0.150 (0.019)	0.100 (0.018)
Trades cert. or diploma	0.284 (0.028)	0.184 (0.025)	0.168 (0.035)	0.146 (0.031)
Some post-secondary	0.115 (0.023)	0.119 (0.021)	0.292 (0.024)	0.185 (0.022)
Post-sec. cert. or diploma	0.216 (0.021)	0.142 (0.020)	0.434 (0.021)	0.281 (0.020)
University degree	0.374 (0.024)	0.273 (0.025)	0.642 (0.024)	0.435 (0.024)
Visible minority ?				
yes	-0.116 (0.031)	-0.109 (0.028)	-0.117 (0.028)	-0.151 (0.025)
not stated	0.132 * (0.076)	0.046 * (0.067)	-0.411 (0.088)	-0.362 (0.078)
Disability status				
disabled and completely prevented from working or limited	-0.299 (0.031)	-0.235 (0.028)	-0.026 * (0.029)	0.012 * (0.026)
disabled but does not know if limited	-0.424 (0.114)	-0.247 (0.104)	-0.370 * (0.358)	-0.222 * (0.316)
disabled but not limited	0.050 * (0.035)	0.046 * (0.031)	-0.079 (0.037)	-0.073 (0.033)
not stated	-0.094 (0.036)	-0.061 (0.031)	0.086 * (0.045)	0.151 (0.041)
Adjusted R square	0.1666	0.3590	0.2573	0.4226
Sample size	4,698	4,698	3,193	3,193

The dependent variable is the natural logarithm of hourly wages. All the explanatory variables used for Model 1 are listed in the table. Along with these variables, Model 2 contains regressors for union status, firm size (4 dummy variables), major industrial groups (6 dummy variables) and major occupational groups (7 dummy variables). The categories "age 16-24", "less than high school", "not member of a visible minority", "not disabled", "unionized", "firms with less than 20 employees", "public services" and "professionals and managers" are the reference groups.

1. Standard errors are between parentheses. \* : not significant at the 5 % level.

**Table 27 :** Proportion of full-time jobs started in 1989 with a new employer which provide hypothetical annual earnings below Statistics Canada's Low Income Measure for one adult [\$ 11,351], by selected characteristics.

Proportion based on hypothetical annual earnings derived by multiplying each worker's hourly wage by :

	(1) 1,750 hours	(2) 2,000 hours
<b>Age</b>		
16-24	32	20
25-34	16	10
35-44	14	10
45-54	19	11
55-64	-	-
<b>Sex</b>		
Men	15	8
Women	30	20
<b>Education</b>		
Less than high school	33	21
Completed high school	22	14
More than high school	13	7
<b>Member of a visible minority ?</b>		
yes	26	17
no	21	12
not stated		
<b>Disability status</b>		
not disabled	20	12
disabled and completely prevented from working or limited at work	28	15
disabled but does not know if limited	-	-
disabled but not limited	32	18
not stated	30	25
<b>All</b>	<b>21</b>	<b>13</b>



**Table 28 : Proportion of full-time jobs started in 1989 with a new employer which provide hypothetical annual earnings below Statistics Canada's Low Income Measure for one person [\$ 11,351], by selected individual characteristics.**

Proportion based on hypothetical annual earnings derived by multiplying each worker's hourly wage by 1,750 hours :

Sex	Men	Women	All
<b>Education</b>			
Less than high school	21	56	33
Completed high school	14	32	22
More than high school	11	15	13
<b>All education levels</b>	<b>15</b>	<b>30</b>	<b>21</b>

Proportion based on hypothetical annual earnings derived by multiplying each worker's hourly wage by 2,000 hours :

Sex	Men	Women	All
<b>Education</b>			
Less than high school	12	38	21
Completed high school	8	22	14
More than high school	5	10	7
<b>All education levels</b>	<b>8</b>	<b>20</b>	<b>13</b>

**Table 29 :** Proportion of full-time jobs started in 1989-90 with a new employer which are covered by a pension plan, by selected characteristics (%).

<b>Age</b>		<b>Education</b>	
16-24	18.9	Less than high school	18.1
25-34	25.6	graduated from high school	18.9
35-44	30.1	trades cert. or diploma	31.6
45-54	20.8	some post-secondary	21.6
55-64		university degree	37.5
<b>Sex</b>		<b>Visible minority ?</b>	
Men	26.0	yes	23.8
Women	20.8	no	23.9
<b>Disability status</b>			
not disabled		24.6	
disabled and completely prevented from working or limited at work		19.7	
disabled but does not know if limited		-	
disabled but not limited		20.1	
not stated		17.9	
<b>All</b>		<b>23.8</b>	
<b>Sample size</b>		<b>7,897</b>	

**Table 30 : Proportion of full-time jobs started in 1989-90 with a new employer which are covered by a pension plan, by sex, age and education (%).**

<b>Men</b>					
	Less than high school	Completed high school	More than high school	<b>All education levels</b>	Sample size
Age					
16-24	12.9	16.5	24.6	<b>17.6</b>	1,374
25-34	21.2	24.6	35.9	<b>28.7</b>	1,686
35-44	26.4	43.3	33.5	<b>34.5</b>	974
45-54	27.9	29.7	22.1	<b>26.4</b>	485
55-64	-	-	-	<b>26.5</b>	179
<b>All ages</b>	<b>20.7</b>	<b>25.2</b>	<b>31.0</b>	<b>26.0</b>	4,698
Sample size	1,850	1,522	1,326	4,698	
<b>Women</b>					
	Less than high school	Completed high school	More than high school	<b>All education levels</b>	Sample size
Age					
16-24	-	16.2	29.6	<b>20.6</b>	969
25-34	13.4	18.1	25.8	<b>21.0</b>	1,149
35-44	-	15.3	36.7	<b>25.2</b>	696
45-54	-	-	-	<b>13.3</b>	324
55-64	-	-	-	<b>-</b>	55
<b>All ages</b>	<b>13.3</b>	<b>16.5</b>	<b>28.1</b>	<b>20.8</b>	3,193
Sample size	1,178	1,106	909	3,193	



**Table 31 : Proportion of full-time jobs covered by pension plan, by age and sex (%) :**  
**(1) Full-time jobs started in 1989-90 and not held in September 1989**  
**(2) Full-time jobs held in September 1989.**

	Men		Women	
	(1)	(2)	(1)	(2)
<b>Age</b>				
16-24	13.8	30.2	19.0	30.1
25-34	26.1	56.1	20.3	52.1
35-44	35.2	69.7	19.9	60.8
45-54	25.7	72.5	13.9	55.9
55-64	31.6	65.1	-	54.3
Sample size	3,296	15,026	2,159	9,879

**Table 32 : Probability of a job being covered by a pension plan (%). Results from logit model.**  
**(1) Full-time job started in 1989-90 and not held in September 1989**  
**(2) Full-time job held in September 1989.**

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I. Men who completed high school, employed in primary and processing occupations :

	(1)	(2)
<b>Age</b>		
16-24	12	28
25-34	18	53
35-44	28	66
45-54	20	72
55-64	28	66

II. Men aged 25 to 34, employed in primary and processing occupations

	(1)	(2)
<b>Education</b>		
Less than high school	19	42
Completed high school	21	53
More than high school	23	60

III. Women who completed high school, employed in clerical occupations

	(1)	(2)
<b>Age</b>		
16-24	21	31
25-34	16	52
35-44	20	60
45-54	20	60
55-64	5	60

IV. Women aged 25 to 34, employed in clerical occupations

	(1)	(2)
<b>Education</b>		
Less than high school	18	42
Completed high school	16	52
More than high school	18	58

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The figures presented in this table are based on the regression results of Appendix 3. Coefficients not statistically significant at the 5 % level (two-tailed test) are set equal to zero when computing the probabilities.

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**Table 33 : Individuals not in school at any time in 1989-90 and with a job at some point in 1989-90 : what percentage worked all weeks of 1989-90 ?**

	Men	Women
<b>Age</b>		
16-24	44	41
25-34	64	50
35-44	72	61
45-54	70	61
55-64	57	50
65-69	59	53
<b>Education</b>		
Less than high school	54	43
Graduated from high school	63	54
Trades cert. or diploma	61	56
Some post-secondary	62	55
Post-sec. cert. or diploma	72	57
University degree	76	63
<b>Member of a visible minority ?</b>		
yes	65	52
no	64	54
not stated	-	-
<b>Disability status</b>		
not disabled	66	55
disabled and completely prevented from working or limited at work	42	38
disabled but does not know if limited	-	-
disabled but not limited	60	51
not stated	-	-
<b>All</b>	<b>64</b>	<b>54</b>

**Table 34 :** Number of weeks employed in 1989-90 for individuals not in school at any time in 1989-90 and with a job at some point in 1989-90 : regression results.

Selected explanatory variables	Men	Women
Intercept	84.922 (0.515)	77.407 (0.720)
Age		
25-34	6.597 (0.518)	1.794 (0.670)
35-44	8.781 (0.531)	7.305 (0.687)
45-54	9.445 (0.571)	8.091 (0.758)
55-64	1.130 * (0.638)	1.338 * (0.938)
65-69	-5.637 (1.376)	0.716 * (2.128)
Education		
Graduated from high school	4.517 (0.435)	7.186 (0.607)
Trades cert. or diploma	3.412 (0.655)	9.648 (1.054)
Some post secondary	4.535 (0.569)	10.146 (0.782)
Post-sec. cert. or diploma	7.215 (0.501)	9.806 (0.647)
University degree	7.304 (0.469)	12.823 (0.691)
Visible minority ?		
yes	0.827 * (0.684)	-2.287 (0.910)
Disability status		
disabled and completely prevented from working or limited at work	-12.846 (0.694)	-12.789 (0.964)
Adjusted R square	0.0772	0.0516
Sample size	20,102	16,805

1. The dependent variable is the number of weeks employed in 1989-90. The set of regressors includes age, education, visible minority status and disability status. The categories "age 16-24", "less than high school", "not member of a visible minority" and "not disabled" are the reference groups. Standard errors are between parentheses.

\* : not significant at the 5 % level (two-tailed test).



**Table 35 :** Number of hours worked in 1989-90 by individuals not in school at any time in 1989-90 and with a job at some point in 1989-90 : regression results.

	Men	Women
<b>Selected explanatory variables</b>		
Intercept	3282.3 (41.70)	2606.39 (40.46)
<b>Age</b>		
25-34	-97.82 (41.88)	-260.00 (37.62)
35-44	-303.84 (42.94)	-236.41 (38.59)
45-54	-371.81 (46.21)	-305.14 (42.58)
55-64	-853.80 (51.62)	-689.02 (52.68)
65-69	-2287.3 (111.3)	-1665.5 (119.6)
<b>Education</b>		
Graduated from high school	172.60 (35.18)	346.84 (34.12)
Trades cert. or diploma	193.81 (53.02)	367.64 (59.23)
Some post secondary	213.11 (46.01)	340.23 (43.94)
Post-sec. cert. or diploma	374.66 (40.49)	438.48 (36.37)
University degree	238.72 (37.90)	564.35 (38.82)
<b>Visible minority ?</b>		
yes	125.93 (55.33)	154.96 (51.11)
<b>Disability status</b>		
disabled and completely prevented from working or limited at work	-686.32 (56.12)	-435.37 (54.20)
Adjusted R square	0.0554	0.0445
Sample size	20,102	16,805

1. The dependent variable is the number of hours worked in 1989-90. The set of regressors includes age, education, visible minority status and disability status. The categories "age 16-24", "less than high school", "not member of a visible minority" and "not disabled" are the reference groups. Standard errors are between parentheses.

\* : not significant at the 5 % level (two-tailed test).

Table 36 : Percentage of individuals not in school at any time in 1989-90 who had no jobs in 1989-90 and who wanted to work at some point in 1989-90, by selected characteristics.

<b>All</b>				<b>2.1</b>
<b>Sex</b>				
Men				1.5
Women				2.8
<b>Member of a visible minority ?</b>				
yes				4.1
no				2.0
not stated				-
<b>Disability status</b>				
not disabled				1.7
disabled and completely prevented from working or limited at work				6.2
disabled but does not know if limited				-
disabled but not limited				1.9
not stated				-
<b>Education</b>				
	Less than high school	Completed high school	More than high school	All education levels
<b>Age</b>				
16-24	4.4	-	-	1.5
25-34	4.1	2.2	1.1	2.0
35-44	3.9	2.0	1.3	2.1
45-54	4.2	-	1.6	2.5
55-64	2.9	2.5	2.7	2.8
<b>All age groups</b>	<b>3.5</b>	<b>1.8</b>	<b>1.3</b>	<b>2.1</b>

**Table 37 :** (1) Individuals not in school at any time in 1989-90, not employed at any time in 1989-90 and who looked for work at some point in 1989 :  
 (2) Individuals not in school at any time in 1989-90, not employed at any time in 1989-90 and who looked for work at some point in 1990 :  
 What percentage of these individuals report having difficulty when looking for work because of the following factors ?

	(1)	(2)
a) they did not have enough information about available jobs	21	20
b) they did not have the skills or experience for available jobs	44	43
c) they did not have enough education for available jobs	37	35
d) they had a long-term physical condition, mental condition or health problem	13	17
e) there was a shortage of jobs in the area	65	68
f) other reasons	15	21
<hr/>		
(3) Individuals not in school at any time in 1989-90, not employed at any time in 1989-90, who wanted to work in 1989 but did not look for work in 1989 : (4) Individuals not in school at any time in 1989-90, not employed at any time in 1989-90, who wanted to work in 1990 but did not look for work in 1990 : What percentage of these individuals report that the following factors prevented them from looking for work ?		
	(3)	(4)
a) they did not have enough information about available jobs	11	10
b) they did not have the skills or experience for available jobs	26	26
c) they did not have enough education for available jobs	21	18
d) they had a long-term physical condition, mental condition or health problem	46	47
e) there was a shortage of jobs in the area	35	27
f) they did not know what type of work or occupation to choose	22	18
g) other reasons	20	13
<hr/>		
Number of individuals in (1) :		154,567
Number of individuals in (2) :		62,237
Number of individuals in (3) :		147,513
Number of individuals in (4) :		52,143
<b>Total : (1) + (2) + (3) + (4) :</b>		<b>416,460</b>

**Table 38 : Distribution of individuals in school part of the period, by age.**

	(1) In school in 1989 but not in 1990	(2) In school in 1990 but not in 1989	(3) In school both years but not for the whole period	(4) All
16-24 years	72.1	52.8	83.6	72.6
25-34 years	17.5	25.4	11.4	16.7
35 years or more	10.4	21.8	5.0	10.7
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Number of individuals</b>	<b>598,563</b>	<b>317,087</b>	<b>596,930</b>	<b>1,512,580</b>

**Table 39 : Distribution of individuals in school in 1989 but not in 1990 by last month spent in school full-time in 1989.**

	Frequency	Percent		Frequency	Percent
January	10,373	1.7	July	11,294	1.9
February	12,133	2.0	August	19,714	3.3
March	21,402	3.6	September	12,433	2.1
April	78,371	13.1	October	20,088	3.4
May	63,781	10.7	November	10,028	1.7
June	100,163	16.7	December	238,783	39.9
			<b>Total</b>	<b>598,563</b>	<b>100.0</b>



**Table 40 :     Distribution of high school dropouts by last month spent in school in 1989.**


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	LMAS 1988-90	School Leavers Survey
January	2,344	3,671
February	508	1,364
March	4,505	4,441
April	801	1,223
May	3,692	1,515
June	15,736	22,207
July	0	16
August	0	377
September	2,375	1,344
October	3,044	1,183
November	480	2,672
December	39,373	3,602
Unknown	0	3,580
<b>Total</b>	<b>72,858</b>	<b>47,196</b>

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Source : Labour Market Activity Survey 1988-90 ; School Leavers Survey 1991.

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**Table 41 : Distribution of :**  
 (1) Individuals in school in 1989 but not in 1990 and whose last month reported in school in 1989 is December,  
 (2) Individuals in school in 1989 but not in 1990 and whose last month reported in school in 1989 is other than December,  
 by age and education.

	(1)	(2)
<b>Age</b>		
16-19	44.9	36.1
20-24	32.5	32.5
25-34	16.7	18.1
35 +	5.9	13.3
<b>Sex</b>		
Men	51.3	48.2
Women	48.7	51.8
<b>Education</b>		
Less than high school	22.8	15.5
graduated from high school	21.8	19.8
trades certificate or diploma	2.1	7.6
some post-secondary	26.0	17.3
post-sec. cert. or diploma	17.1	19.8
university degree	10.2	20.0
<b>Total</b>	<b>100.0</b>	<b>100.0</b>
<b>Number of individuals</b>	<b>238,783</b>	<b>359,780</b>

**Table 42 :** Average annual earnings in 1990 of individuals aged 16 to 24, in school in 1989 but not in school in 1990 (and whose last month reported in school is other than December), by sex and education.

	Men	Women
<b>Education</b>		
a) Less than high school	12,585	8,999
b) graduated from high school	14,155	9,293
c) trades certificate or diploma	19,480	13,721
d) some post-secondary	14,332	11,565
e) post-sec. cert. or diploma	20,652	17,619
f) university degree	24,815	18,100
<b>f) / a)</b>	<b>2.0</b>	<b>2.0</b>
<b>Sample size</b>	<b>367</b>	<b>403</b>

**Table 43 :** Proportion of individuals aged 16 to 24, in school in 1989 but not in school in 1990 (and whose last month in school in 1989 is other than December) who had a job in 1990 (%) :

	Men	Women	All
<b>Education</b>			
a) Less than high school	92	83	<b>88</b>
b) Completed high school	96	90	<b>93</b>
c) More than high school	94	94	<b>94</b>
<b>All education levels</b>	<b>94</b>	<b>91</b>	<b>93</b>
<b>Sample size</b>	<b>367</b>	<b>403</b>	<b>770</b>

**Table 44 : Individuals aged 16 to 24, in school in 1989 but not in 1990 (and whose last month in school is other than December) :**

**I. Average annual earnings in 1990 of individuals who had a job in 1990 :**

	Men	Women
<b>Education</b>		
a) Less than high school	13,636	10,785
b) graduated from high school	14,909	10,500
c) trades certificate or diploma	19,680	14,539
d) some post-secondary	15,978	12,910
e) post-sec. cert. or diploma	21,146	18,259
f) university degree	25,842 <sup>1</sup>	19,095
<b>f) / a)</b>	<b>1.9</b>	<b>1.8</b>
<b>Sample size</b>	<b>340</b>	<b>353</b>

**II. Hours worked in 1990 by individuals who had a job in 1990**

	Men	Women
<b>Education</b>		
a) Less than high school	1,742	1,552
b) graduated from high school	1,755	1,484
c) trades certificate or diploma	1,832	2,009
d) some post-secondary	1,738	1,520
e) post-sec. cert. or diploma	1,783	1,533
f) university degree	1,779	1,670
<b>Sample size</b>	<b>340</b>	<b>353</b>

**III. Average hourly wage in jobs held in 1990, for individuals who had a job in 1990**

	Men	Women
<b>Education</b>		
a) Less than high school	7.83	6.80
b) graduated from high school	8.45	7.09
c) trades certificate or diploma	10.56	7.42
d) some post-secondary	9.29	8.24
e) post-sec. cert. or diploma	11.53	12.11
f) university degree	14.02	11.71
<b>f) / a)</b>	<b>1.8</b>	<b>1.7</b>
<b>Sample size</b>	<b>340</b>	<b>353</b>

1. Sample size = 28.



**Table 45 :** Individuals aged 16 to 24, in school in 1989 but not in school in 1990 (and whose last month in school in 1989 is other than December) :

**I. Proportion of individuals who started a full-time job in 1989 or 1990 after leaving school :**

	Men	Women	All
<b>Education</b>			
a) Less than high school	72	68	70
b) Completed high school	82	62	72
c) More than high school	78	70	74
<b>All education levels</b>	<b>78</b>	<b>67</b>	<b>73</b>
<b>Sample size</b>	<b>367</b>	<b>403</b>	<b>770</b>

**II. Time elapsed (number of weeks) between last month in school in 1989 and start date of first full-time job obtained after leaving school, for individuals starting a full-time job in 1989 or 1990 after leaving school :**

	Men	Women	All
<b>Education</b>			
a) Less than high school	17.8	20.2	18.8
b) Completed high school	12.5	21.6	16.4
c) More than high school	15.2	18.6	16.9
<b>All education levels</b>	<b>14.7</b>	<b>19.7</b>	<b>17.0</b>
<b>Sample size</b>	<b>283</b>	<b>272</b>	<b>555</b>

**III. Hourly wage rate in first-full time job started after leaving school, for individuals starting a full-time job in 1989 or 1990 after leaving school :**

	Men	Women	All
<b>Education</b>			
a) Less than high school	7.51	5.73	6.75
b) Completed high school	8.47	6.81	7.76
c) More than high school	10.03	10.31	10.17
<b>All education levels</b>	<b>9.09</b>	<b>8.66</b>	<b>8.89</b>
<b>c) / a)</b>	<b>1.3</b>	<b>1.8</b>	<b>1.5</b>
<b>Sample size</b>	<b>283</b>	<b>272</b>	<b>555</b>

**Table 46 :** Proportion of individuals aged 16 to 24, in school in 1989 but not in school in 1990 (and whose last month in school in 1989 is other than December) who worked all weeks of 1990, by sex and education.

<b>Education</b>	<b>Less than high school</b>	<b>Completed high school</b>	<b>More than high school</b>	<b>All education levels</b>
<b>Sex</b>				
Men	-	48	55	<b>49</b>
Women	-	48	56	<b>51</b>
<b>All</b>	<b>40</b>	<b>48</b>	<b>55</b>	<b>50</b>

**Table 47 :** Proportion of individuals not in school in 1989, either employed or wanting to work at some point in 1989, who returned to school in 1990, by selected characteristics.

<b>Education</b>	<b>Less than high school</b>	<b>Completed high school</b>	<b>More than high school</b>	<b>All education levels</b>
<b>Age</b>				
16-24	10.3	7.6	8.9	<b>8.7</b>
25-34	1.7	0.9	2.4	<b>1.8</b>
35 years or more	0.5	0.7	1.3	<b>0.9</b>
<b>All age groups</b>	<b>1.9</b>	<b>1.9</b>	<b>2.6</b>	<b>2.2</b>
<b>Were average annual earnings of 1988 and 1989 below Low Income Measure (\$ 11,351) ?</b>				
		<b>yes</b>	<b>no</b>	<b>All</b>
<b>Age</b>				
16-24		12.3	6.2	<b>8.7</b>
25-34		2.7	1.4	<b>1.8</b>
35 years or more		1.2	0.7	<b>0.9</b>
<b>All age groups</b>		<b>3.4</b>	<b>1.6</b>	<b>2.2</b>

## Appendix 1 : The Data

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The data is taken from the Labour Market Activity Survey of 1988-90 (LMAS 1988-90). LMAS 1988-90 is a longitudinal survey which collects information on individuals' behaviour on the labour market over a three-year period.

Examination of the data has revealed that the number of jobs started in 1988 exceeds by roughly 400,000 the number of jobs started in 1989. However, administrative data (which uses records from Employment and Immigration Canada's Record of Employment (ROE) and Revenue Canada's T4 Supplementary file) suggests that the number of hirings in 1988 is roughly 100,00 **smaller** than the number of hirings in 1989. The universes of LMAS 1988-90 and of administrative data differ and thus, one should not be too concerned about differences in the **level** of job starts. However, what is observed here is a difference in the **time path** of job starts. The natural question to be asked is why does LMAS's estimate of job starts fall between 1988 and 1989 while estimates from administrative data slightly rise during the same period?

While we cannot provide a definitive answer to that question, two factors can be invoked to explain that difference in the time path of job starts. First, it should be made clear that the information used in LMAS for the estimation of job starts with new employers is derived from two different processes in 1988 and 1989. While it is possible to check whether a job supposedly starting in 1989 was in fact held in 1988 and thus did **not** start in 1989, this cannot be done for jobs starting in 1988. One cannot check, for example, whether a job supposedly starting in 1988 actually started **before** 1988 or not. This is so simply because 1988 is the first year for which longitudinal data is collected. Therefore, it is possible that LMAS's estimate of job starts for 1988 contains jobs which actually started in 1987 but which were incorrectly situated in time by respondents (i.e. telescoping of job starts). A second possibility is that some jobs which actually started in 1989 were mistakenly linked with previous jobs held in 1988. This would lead to overestimate the number of job starts in 1988 (i.e. to have fictitious job starts) and to underestimate the number of job starts in 1989. Given that LMAS's figures imply an implausible decrease in job starts between 1988 and 1989 (2 years for which macroeconomic conditions were very similar), we concentrate our analysis on jobs started in 1989 and 1990.

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**Appendix 2 : Distribution of full-time jobs held in September 1989, by industry and occupation :**

- (1) Individuals members of visible minorities**
- (2) Individuals not members of visible minorities**
- (3) Individuals disabled and completely prevented from working or limited at work**
- (4) Individuals not disabled.**

	(1)	(2)	(3)	(4)
<b>Industry</b>				
Primary sector	1.6	4.4	6.1	4.0
Construction	2.1	6.5	7.4	6.2
Manufacturing	24.9	21.6	20.4	21.6
Distributive Services	9.4	14.2	15.5	13.9
Business Services	14.8	10.7	7.7	11.2
Consumer Services	23.5	17.4	18.7	17.6
Public Services	23.9	25.3	24.3	25.6
<b>Occupation</b>				
Professionals and managers	14.0	14.8	8.7	15.0
Natural and social sciences	17.7	16.4	12.7	16.9
Clerical	17.4	17.0	15.1	17.3
Sales	4.1	6.8	5.1	6.9
Services	15.4	9.3	14.4	9.4
Primary and processing	21.3	19.1	23.1	18.7
Construction	1.9	7.0	7.8	6.5
Other	8.3	9.5	13.1	9.3
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>



## Appendix 3

**Table 1 :** Full-time jobs started in 1989-90 with a new employer by men with non-working periods shorter than 2 years. Regression results for :

(1) Logit model : Probability of starting a job preceded by a non working period  
(2) Ordinary least squares : Average number of weeks not worked before starting jobs preceded by non-working periods  
(3) Logit model : Probability of starting a job preceded by job search  
(4) Ordinary least squares : Average number of consecutive weeks of job search before starting jobs preceded by job search.

Explanatory variables	(1)	(2)	(3)	(4)
Intercept	0.375 (0.088)	20.747 (1.14)	-0.030 * (0.088)	16.621 (1.015)
Age				
16-24	0.226 (0.091)	2.551 (1.190)	0.101 * (0.092)	-1.382 * (1.061)
25-34	0.119 (0.087)	0.704 * (1.172)	0.023 * (0.089)	-0.119 * (1.048)
45-54	0.479 (0.126)	2.455 * (1.542)	0.420 (0.125)	-0.407 * (1.363)
55-64	0.896 (0.214)	4.161 * (2.224)	0.598 (0.201)	3.453 * (2.032)
Education				
Completed high school	-0.288 (0.078)	-2.852 (0.935)	-0.209 (0.076)	-1.562 * (0.831)
More than high school	-0.762 (0.077)	-4.317 (0.975)	-0.751 (0.077)	-1.434 * (0.884)
Adjusted R square	-	0.0199	-	0.0065
2 log likelihood with intercept only	-6292.50	-	-6172.91	-
2 log likelihood model chi square	-6130.89	-	-6022.54	-
	161.61	-	150.37	-
Sample size	4,569	2,667	4,510	2,114
Dependent variable = 1	2,502	-	1,956	-
Dependent variable = 0	2,067	-	2,554	-

1. All regressions also include visible minority status and disability status as explanatory variables. Standard errors are between parentheses. The dependent variable in column 1 (3) equals 1 when a job is preceded by a non-working period (by job search), 0 otherwise. The dependent variable in column 2 (4) is the number of weeks not worked (number of consecutive weeks of job search) before starting jobs preceded by non-working periods (by job search). The categories "age 35-44", "less than high school", "not member of a visible minority" and "not disabled" are the reference groups.

\* : not significant at the 5 % level (two-tailed test).

## Appendix 3

**Table 2 :** Full-time jobs started in 1989-90 with a new employer by women with non-working periods shorter than 2 years. Regression results for :

(1) Logit model : Probability of starting a job preceded by a non working period  
 (2) Ordinary least squares : Average number of weeks not worked before starting jobs preceded by non-working periods  
 (3) Logit model : Probability of starting a job preceded by job search  
 (4) Ordinary least squares : Average number of consecutive weeks of job search before starting jobs preceded by job search.

Explanatory variables	(1)	(2)	(3)	(4)
Intercept	0.238 (0.113)	27.190 (1.675)	-0.649 (0.119)	17.645 (1.342)
Age				
16-24	-0.101 * (0.107)	-2.620 * (1.639)	0.051 * (0.115)	-5.301 (1.315)
25-34	0.211 (0.104)	-0.989 * (1.564)	0.290 (0.111)	-2.778 (1.263)
45-54	0.423 (0.150)	-5.784 (2.112)	0.467 (0.154)	-4.253 (1.663)
55-64	0.250 * (0.339)	17.115 (4.759)	0.316 * (0.373)	2.912 * (4.000)
Education				
Completed high school	-0.208 (0.108)	-3.034 (1.535)	-0.093 * (0.111)	-0.159 * (1.210)
More than high school	-0.393 (0.103)	-6.151 (1.476)	-0.227 (0.107)	-1.120 * (1.167)
Adjusted R square	-	0.0270	-	0.0170
2 log likelihood with intercept only	-3898.56	-	-3616.13	-
2 log likelihood model chi square	-3840.37 58.19	-	-3575.36 40.77	-
Sample size	2,816	1,590	2,767	1,081
Dependent variable = 1	1,469	-	996	-
Dependent variable = 0	1,347	-	1,771	-

1. All regressions also include visible minority status and disability status as explanatory variables. Standard errors are between parentheses. The dependent variable in column 1 (3) equals 1 when a job is preceded by a non-working period (by job search), 0 otherwise. The dependent variable in column 2 (4) is the number of weeks not worked (number of consecutive weeks of job search) before starting jobs preceded by non-working periods (by job search). The categories "age 35-44", "less than high school", "not member of a visible minority" and "not disabled" are the reference groups.

\* : not significant at the 5 % level (two-tailed test).

# Appendix 4 : Logit model : Probability of a job being covered by a pension plan.

Explanatory variables	Men		Women	
	Coefficients	Interaction terms	Coefficients	Interaction terms
Constant	0.409 (0.068)	-1.007 (0.206)	0.008 * (0.087)	-0.792 (0.240)
Age				
16-24	-1.621 (0.056)	0.533 (0.147)	-1.236 (0.068)	1.268 (0.174)
25-34	-0.567 (0.046)	0.217 * (0.126)	-0.321 (0.056)	0.316 * (0.165)
45-54	0.252 (0.057)	-0.710 (0.178)	-0.0007* (0.069)	-0.308 * (0.260)
55-64	0.009 * (0.070)	-0.046 * (0.249)	-0.032 * (0.102)	-1.506 (0.754)
Education				
High school	0.419 (0.048)	-0.255 (0.127)	0.415 (0.069)	-0.551 (0.188)
More than high school	0.688 (0.049)	-0.421 (0.134)	0.663 (0.071)	-0.608 (0.180)
Occupation				
Natural and social sciences	0.477 (0.070)	-0.096 * (0.233)	0.853 (0.075)	-0.750 (0.226)
Clerical	0.323 (0.086)	-0.753 (0.277)	0.007 * (0.066)	-0.437 (0.184)
Sales	-0.837 (0.085)	0.064 * (0.243)	-1.118 (0.101)	-0.570 * (0.340)
Services	-0.118 * (0.077)	-0.624 (0.257)	-0.884 (0.088)	-0.596 (0.264)
Primary and processing	-0.145 (0.060)	-0.371 (0.184)	-0.712 (0.099)	-0.228 * (0.270)
Construction	-0.202 (0.723)	0.510 (0.186)	-0.320 * (0.371)	-0.880 * (0.783)
Other	-0.137 (0.068)	-0.469 (0.209)	-0.770 (0.121)	-0.417 * (0.345)
Log likelihood with intercept only	-12700.06	-	-8307.10	-
Log likelihood	-11009.20	-	-7049.84	-
Model Chi-squared	3381.71	-	2514.51	-
Sample size	18,366	-	12,059	-
Pension plan = 1	9,229	-	5,223	-
Pension plan = 0	9,137	-	6,836	-

1. The dependent variable equals 1 when a job is covered by a pension plan, 0 otherwise. Standard errors are between parentheses. Interaction terms are the product of the explanatory variables times the dummy variable "new employer" (new employer = 1 if job is started with a new employer in 1989-90 and job is not held in September 1989, 0 if job is held in September 1989. The categories "age 35-44", "less than high school", "professionals and managers" are the reference groups.  
 \* : not significant at the 5 % level (two-tailed test).

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